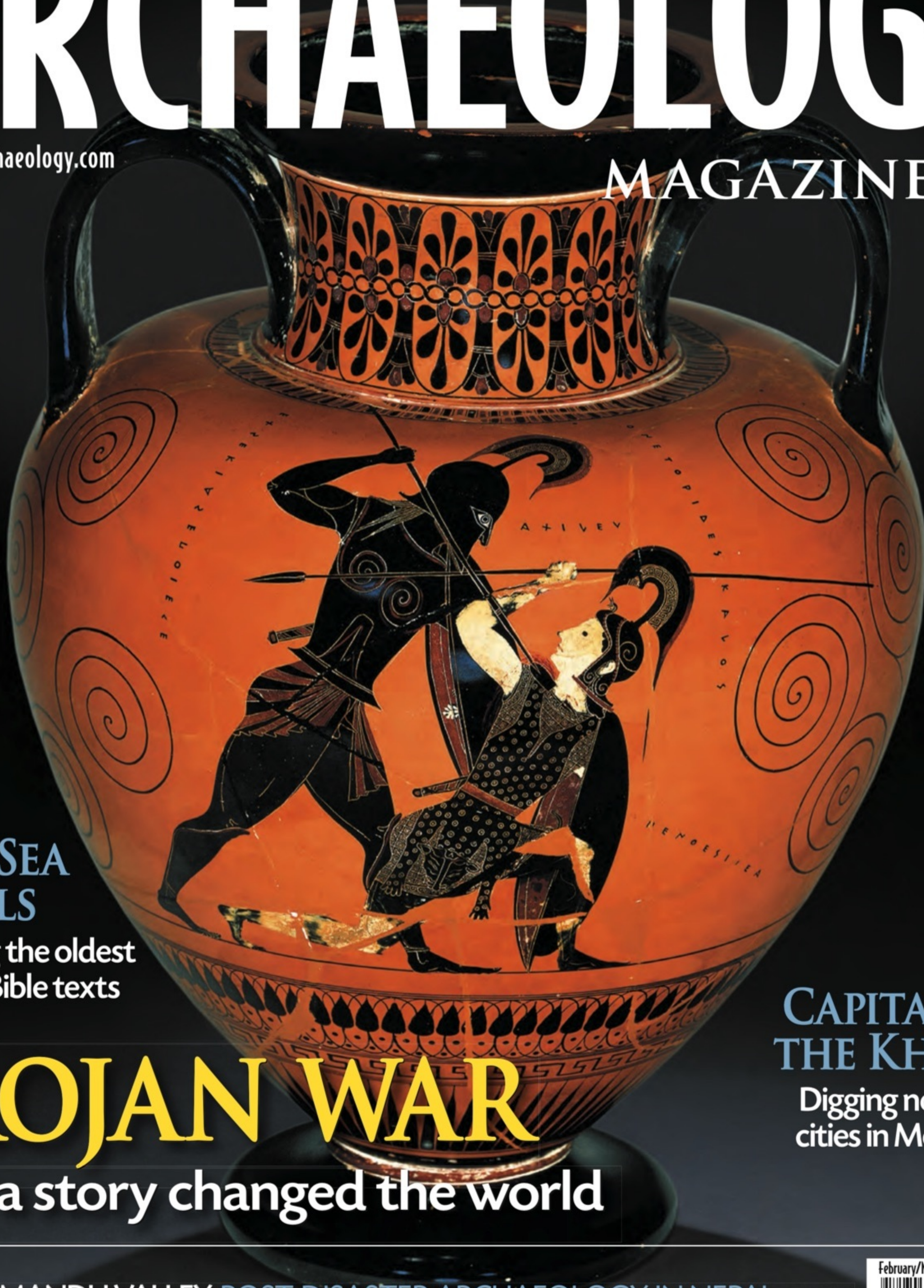


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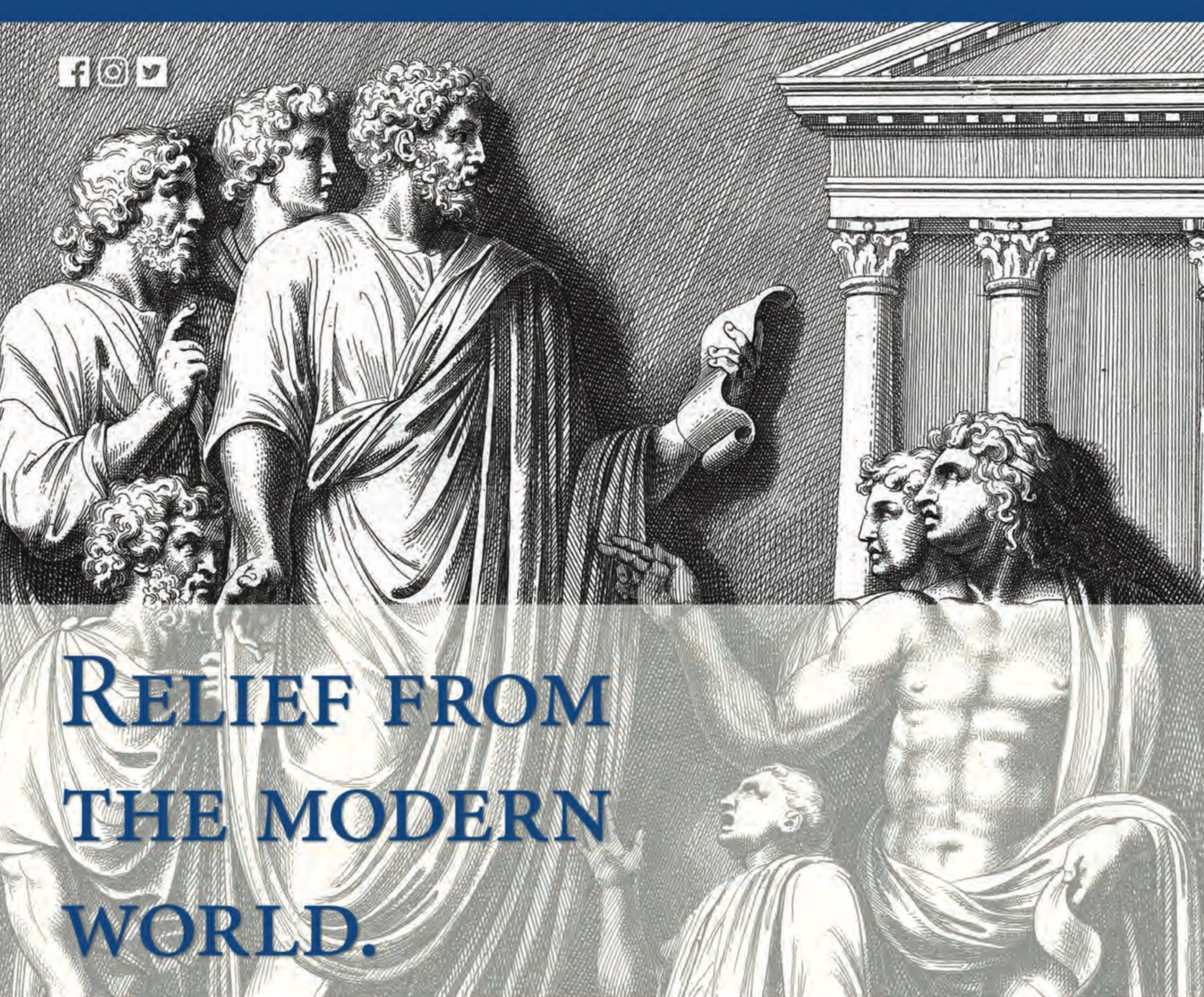
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Subscriptions

Current World Archaeology is published
6 times a year by Current Publishing Ltd

UK and Rest of World

1 year subscription is £29.95 (UK) or £35.95 (Rest of World)
for 6 issues. Single issues £5.95 each (Rest of World £6.95)

Subscriptions should be sent to: Current Publishing
Thames Works, Church Street, London, W4 2PD

Tel: 020 8819 5580 Fax: 020 8819 5589

Subs queries: subs@currentpublishing.com

Web subs: www.world-archaeology.com

USA and Canada

CURRENT WORLD ARCHAEOLOGY (ISSN 1745-5820) (USPS 024-064) February/March 2020 is published bi-monthly by
Current Publishing, Thames Works, Church Street, London W4 2PD, UK. Distributed in the US by NPS Media Group,
2 Corporate Drive, Suite 945, Shelton, CT 06484. Tel: 866-909-2507. Periodicals postage paid at Shelton, CT, and additional mailing offices.
POSTMASTER: Send address changes to CURRENT WORLD ARCHAEOLOGY, PO Box 37052, Boone, IA 50037-0052

Send US and Canada subscription enquiries to:

Email: CWCustserv@cdfsfulfillment.com

Tel: Toll Free 866-909-2507

Printed in the UK by William Gibbons

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Issue 99
February/March 2020
Volume 9 • No.3

On the cover: Achilles slays Penthesilea.
Credit: British Museum



The archaeological legacy of the Trojan war is immense. Greek vases pull no punches when they show Homeric heroes engaged in brutal combat. Key scenes from the conflict and its aftermath play out across ancient sarcophagi, wall paintings, and even fine tableware. Yet there is a strong chance that none of these events ever really happened. How did this story become so important in the Greek, Roman, and medieval worlds? We explore where the inspiration for Homer's *Iliad* and *Odyssey* came from, and ask whether there could be a grain of truth at the heart of them.

The lush pasturelands of the Orkhon river in Mongolia are another place where mythology has been woven around cities. One ruined site was known as the 'bad city', perhaps because it became seen as a realm of the dead, while another was reputedly founded by Genghis Khan. Excavations are currently breathing life into these former capitals, by exposing fine architecture expressing the aspirations of their nomadic founders.

Sadly, some of the stunning historic structures studding the Kathmandu Valley in Nepal were levelled by the Gorkha Earthquake in 2015. More damage was done in the subsequent rush to clear the rubble and rebuild these monuments. Now a programme of post-disaster archaeology has demonstrated what can be achieved if greater heed is paid to the surviving fabric.

Painstaking attention to detail is fundamental to the cutting-edge methods being used to conserve and record the Dead Sea Scrolls, too. This remarkable cache of manuscripts may also be the product of a devastating event, in this case Roman repression. We examine the past, present, and future of the world's oldest surviving biblical writings.

Finally, in our travel section, Richard Hodges takes us to an exclusive Corfu house party, while Lucia Marchini has been exploring life, death, and a ziggurat-style structure in Sardinia.

Matthew

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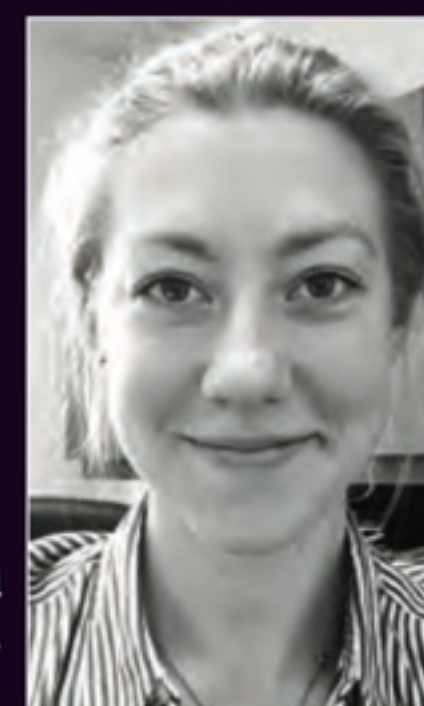
A cradle of civilisations, p.24
Christina Franken has worked as an archaeologist in Mongolia since 2000. She currently leads the German Archaeological Institute research projects in the Mongolian Orkhon Valley.



A cradle of civilisations, p.24
Hendrik Rohland is an archaeologist and historian who has worked in Mongolia since 2011. He wrote his doctoral thesis on the topic of the Eastern Church and intercultural communication in Mongol Qara Qorum.



After the earthquake, p.32
Robin Coningham holds the UNESCO Chair on Archaeological Ethics and Practice in Cultural Heritage at Durham University. He directed UNESCO's rescue excavations in Kathmandu after the 2015 earthquake.



The Dead Sea Scrolls, p.36
Abigail VanderHart is a Program Associate with the Friends of the Israel Antiquities Authority (FIAA). She holds a Bachelor's degree in Biblical Archaeology from Wheaton College and is on staff at the Tel Shimron Excavations.

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Bronze Age tombs discovered in Pylos



LEFT One of the two large Bronze Age *tholos* tombs excavated in Pylos.

ABOVE A finely crafted gold ring, showing two cows sitting among some sheaves of barley.

BELOW An agate sealstone from the site bears the image of two mythological creatures with a 16-point star above their heads. This star is unusual in Mycenaean art.

The latest season of excavations in Pylos, Greece, have uncovered two further Bronze Age beehive-shaped *tholos* tombs with lavish grave goods. The two tombs, overlooking the Mediterranean Sea, were found near the grave of the Griffin Warrior discovered in 2015 (see CWA 82), and also date from the 15th century BC, providing new evidence about this transitional period when the influence of Minoan Crete gave way to the Mycenaean civilisation emerging on the mainland.

Working at the site in 2018/2019, a team led by Sharon Stocker and Jack Davis (who was recently presented with the Archaeological Institute of America's Gold Medal for Distinguished Archaeological Achievement) from the University of Cincinnati removed masses of stones from the tomb's collapsed domes to reveal their interiors. The larger of the two, Tholos VI, has a diameter of about 12m, while the smaller, Tholos VII, has a diameter of around 8.5m. Inside the larger tomb were numerous flakes of gold leaf.

More gold was recovered in the form of jewellery. One gold ring carries the unusual depiction of two cows along with sheaves of grain, identified as barley by the project's palaeobotanist. The site has previously yielded other objects with interesting images. A scene engraved on an agate sealstone from the tomb of the Griffin Warrior shows two mythical, lion-headed creatures, Minoan *genii*, carrying an incense burner and a jug. The *genii* are not uncommon in Minoan art, but an intriguing feature of this scene is the 16-pointed star above their

heads. This type of star rarely appears in Mycenaean art, but, curiously, it is also seen on a gold and bronze artefact from the site.

The wealth of princely goods in the tombs point to Pylos's importance on coastal trade routes. As well as a lot of gold, there are other high-value materials like amber from the Baltic and imported carnelian. The artefacts hint at connections with Egypt: amethyst from Egypt was found, as was a gold pendant adorned with an image of the goddess Hathor, who in Egyptian mythology is a protector of the dead.

Unlike the Griffin Warrior, who was buried alone in a shaft grave, the large *tholos* tombs were the final resting place of a group or family. They sit in the same area as Tholos IV, excavated by Carl Blegen in the 1950s, and highlight that the area, located near the later Palace of Nestor, served as a larger cemetery for a high-ranking community.



IMAGES: UC Classics

AI FINDS NEW NASCA LINE

More than 140 previously unrecorded geoglyphs have been identified in the Nasca desert by a group of researchers from Yamagata University. Between 2004 and 2018, the team led by Masato Sakai analysed high-resolution images of the entire area where the Nasca lines are found and carried out fieldwork, identifying 142 geoglyphs of humans, animals (including birds, monkeys, fish, snakes, felines, and camelids), and other figures. They are thought to date from the Initial (c.100 BC-AD 100) and Early (c.AD 100-300) Nasca periods, and were created by removing black stones on the ground to reveal the white sand beneath.

As part of the investigations, the archaeologists have also partnered with IBM to see how artificial intelligence can be used to speed up the process of sorting



through large amounts of data from outside the main concentration of geoglyphs. After analysing their data with a machine-learning system, the research team selected one of several candidates for geoglyphs flagged by the AI for further investigation. Fieldwork carried out at the selected site in 2019 confirmed the presence of a relatively small, 5m-tall humanoid figure, perhaps dating from the Initial Nasca period.

ABOVE A small geoglyph, representing a humanoid figure, has been identified in the Nasca desert using artificial intelligence.

Its position close to a path may suggest that it served as a way-marker.

This is the first geoglyph at Nasca discovered by AI technology, which the project plans to use to study the distribution of the figures and to create a map of the geoglyphs in the region.

PHOTOS: courtesy of Yamagata University

FIRST EGYPTIAN HEAD CONES FOUND



Physical examples of the head cones seen in Egyptian art, such as this wall painting (FAR LEFT) from a private chapel at the Workmen's Village in Amarna, partially reconstructed by Fran Weatherhead, have been found for the first time in two graves (LEFT) from the ancient city.

Ancient Egyptian art from the early New Kingdom to the Ptolemaic period (c.1549-30 BC) shows some individuals wearing cone-shaped objects on their heads, but despite their numerous representations on elite tombs, stelae, papyri, and other media, no physical examples of these intriguing accessories had been found until recently, when excavations at Amarna unexpectedly uncovered two non-elite burials with partially preserved cones.

The first was found in 2010 in the South Tombs Cemetery of the city, which was occupied briefly between c.1347 and 1332 BC, and the second in the North Tombs Cemetery in 2015. Not only do these two burials provide important proof that the objects did exist beyond the realm of visual representation, but they also answer questions about how the cones were made. Both have been analysed and

the results of the spectroscopic study, recently published in *Antiquity*, reveal that the hollow cones were constructed out of wax.

While the discovery helps elucidate some aspects of the head cones, their potential meaning remains uncertain. Anna Stevens, assistant director of the Amarna Project, explained, 'The excavated examples confirm for

us that the cones could play a funerary role, and specifically that they could be worn directly by the deceased in the grave. To judge from the many representations that we have of the cones, though, they were probably worn in a number of other contexts too (and presumably by the living, not just the dead). The question of why they were worn is much more difficult to answer, and again they may not have had just a single meaning. In terms of the cones we found in the burials, it doesn't seem far-fetched to suggest that they were connected with helping the deceased make the transition into the afterlife (i.e. connected with ideas of rebirth) or bringing them benefit of some kind once there (perhaps ongoing protection, or even fertility). But these are just suggestions. Hopefully more cones can be found, from Amarna or elsewhere, that might give us more clues!'

PHOTOS: courtesy of the Amarna Project



The twist in the monkey's tail

LEFT The monkeys on this Bronze Age wall-painting from Akrotiri have recently been identified as langurs by primatologists, raising the possibility that the Aegean was indirectly connected with the Indus Valley at an early date.

Wall paintings from Bronze Age Crete and Thera are populated with monkeys engaged in a range of activities, but where did these animals come from? A new interdisciplinary study suggests that the monkeys depicted in Room 6 of Building Complex Beta, dating from the 16th-15th century BC, at Akrotiri on the island of Thera did not come from nearby Egypt. Instead, they represent a genus from further afield: the langur, indigenous to Nepal, Bhutan, and the Indus Valley.

Archaeologist Marie Nicole Pareja, based at the University of Pennsylvania Museum of Archaeology and Anthropology, sent images of various monkeys in Bronze Age art to a team of primatologists to see if there were any species that could be identified. As recently published in the journal *Primates*, the primatologists and taxonomic illustrator involved in the study identified the Akrotiri monkeys as either grey langurs or Hanuman

langurs, because their tails curve upwards in C- or S-shape, unlike those of vervets from east Africa, which are carried straight behind them with only a slight curve at the end.

The interpretation of these monkeys as langurs may offer an insight into long-distance connections in the beginning of the Late Bronze Age, as Marie explained. 'This is not an argument for direct contact, but for indirect contact through trade routes that opened earlier than thought. What it does tell us is that Mesopotamia was serving much more as a hub than we who focus on the Aegean have previously thought. There are references in the Amarna Letters to rulers in Mesopotamia importing she-monkeys from Egypt (they already had the he-monkeys), and people from the Aegean likely travelled to Mesopotamia.'

This connection between the Aegean and the Indus may provide a new place to look when identifying other animals in Aegean art that have no known parallels closer to home.

PHOTO: courtesy of M N Pareja

NECKLACES FOR NEANDERTHALS

Researchers investigating Cova Foradada in Spain have uncovered the remains of eagle talons, dating from around 39,000 years ago, that bear witness to the cultural practices of Europe's last Neanderthals.

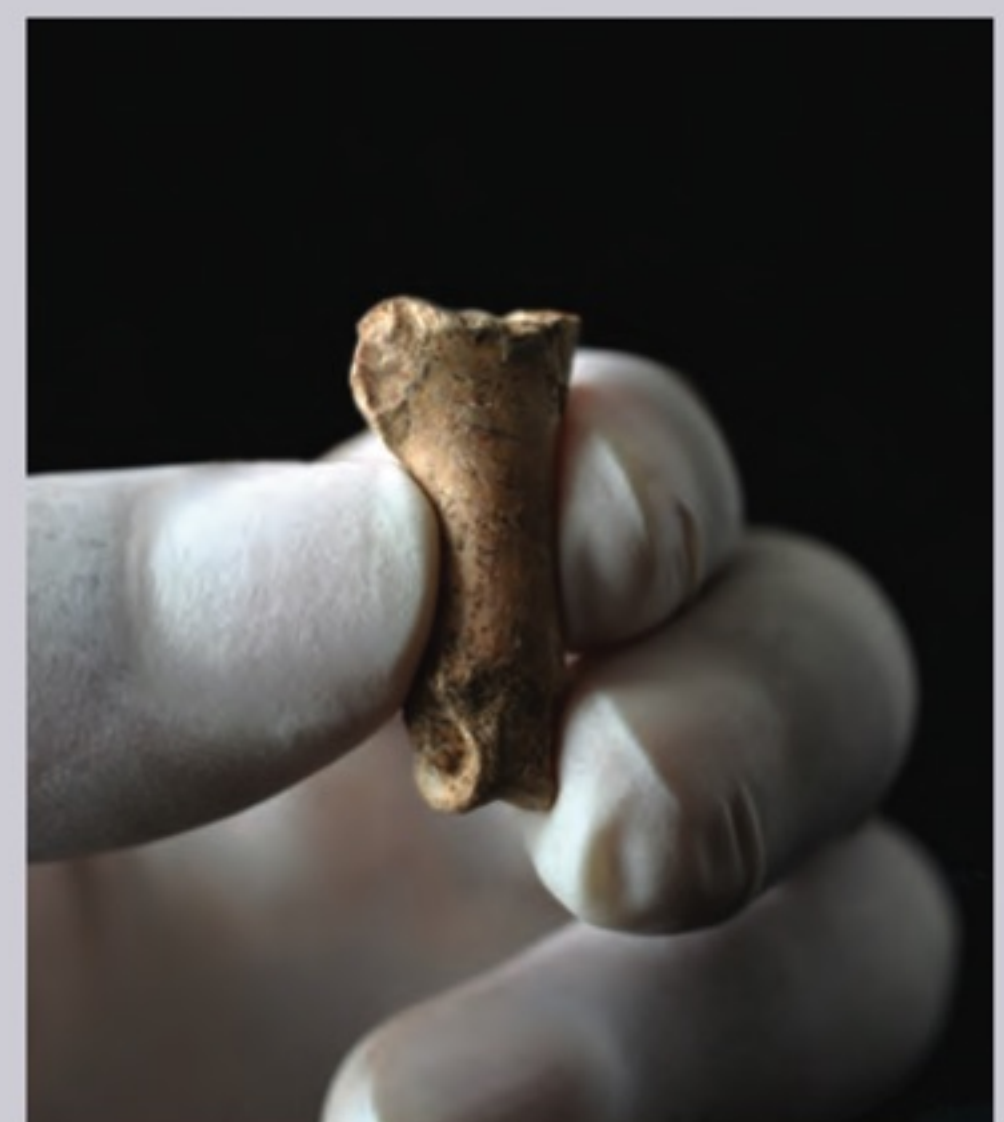
The marks found on the remains of the left leg of the large Spanish Imperial Eagle suggest that they were adapted to be used as pendants, something that can be seen in Neanderthal sites around southern Europe. Radiocarbon dating indicates that the Cova Foradada talons are the most recent of these Neanderthal accessories. Antonio Rodríguez-Hidalgo, of the Institute of Evolution in Africa and lead author of the recent study published in *Science Advances*, told CWA, 'It is the time when Neanderthals are disappearing, leaving populations only in some parts of western and southern Europe'.

'The most important thing is not only that it is the most recent case (among Neanderthals), but that it is one of the few cases associated

with the Châtelperronian culture, a culture developed by the last Neanderthals of western Europe. This culture represents a transition of Neanderthals from the Middle Palaeolithic to the Upper Palaeolithic (more typical of *Homo sapiens*). Our finding serves as proof that the symbolic use of eagle claws and talons was a tradition born among the Middle Palaeolithic Neanderthals, which survived in the Neanderthals in transition to the Upper Palaeolithic.'

The late dates of the Cova Foradada talons coincide with when Neanderthals and *Homo sapiens* coexisted. The research paper also suggests that eagle talons such as these could even present an example of cultural transmission from the soon-to-be-extinct Neanderthals to modern humans, who adopted this type of ornamentation after reaching Europe.

RIGHT This eagle talon, found in Cova Foradada, Spain, was adapted for use as a pendant by some of Europe's last Neanderthals.



PHOTOS: Antonio Rodríguez-Hidalgo



ABOVE This stunning bronze shield, uncovered in an Iron Age chariot burial (BELOW) in Pocklington in the UK, has a unique scalloped border and signs of damage that suggest it saw action rather than just serving as a ceremonial object.

REVEALING A UNIQUE IRON AGE SHIELD

A well-preserved Iron Age shield discovered in Pocklington in the United Kingdom in 2018 has recently been conserved, bringing to light its remarkable decorative details. The bronze shield was excavated from a chariot burial, where it was found face down in the upright chariot (which was drawn by two ponies, positioned fully upright as if leaping out of the grave). The skeleton of its presumed owner, a male who died over the age of 46, had been laid on it.

Conservation work has revealed swirling La Tène-style patterns hammered into the bronze from the underside and, uniquely for a find from Iron Age Europe, a scalloped border.

Paula Ware from MAP Archaeological Practice, who carried out the excavation on behalf of Persimmon Homes Yorkshire, said: 'This is the first time a shield has been found this complete, in this style, and in this context.'

Elaborately decorated metal-faced shields like this are often thought to be ceremonial rather than practical battle-gear. But the Pocklington shield bears evidence of a puncture consistent with that of a sword, and even traces of repairs. Paula explained, 'These signs of damage are interesting as they reveal the shield was used, presumably in some defensive way, and not just for decoration.'



PHOTOS: MAP Archaeological Practice

NEWS IN BRIEF

PORTRAIT OF THE ARCHAEOLOGIST



A new portrait of archaeologist Dorothy Garrod has recently been unveiled at the McDonald Institute for Archaeological Research at the University of Cambridge, where she was elected to the Disney Professorship of Archaeology in 1939. Garrod specialised in the Palaeolithic period and excavated in Gibraltar, Bulgaria, and Palestine. The painting, by artist Sara Lavelle, was

commissioned by the McDonald Institute and marks the 80th anniversary of Garrod's election to the professorship, which made her the first female Oxbridge professor of any subject.

IMAGE: Sara Lavelle

SHIP-SHAPE FIND IN NORWAY

Archaeologists from the Norwegian Institute for Cultural Heritage (NIKU) carrying out a high-resolution georadar survey at Edøy, Norway, have identified the outline of the 13m-long keel of a ship, thought to be the remains of a Viking ship burial. 'It is too early to say anything certain about the age for the ship, but it must be from the Merovingian or Viking period, which means the ship is more than 1,000 years old', said Knut Paasche from NIKU. Signs of settlement were also detected during the survey. These too cannot yet be dated, but the team intend to return to investigate Edøy further.

ETHNOARCHAEOLOGY IN THE MOUNTAINS

Survey in the Sefidkuh mountains of Balochistan, Iran, examining the continuity of settlement in Makran, where semi-sedentary and semi-nomadic communities reside today, has found evidence of settlements in the region dating back to the Chalcolithic and Parthian eras. Led by Hossein Vahedi, a graduate student at Shahrekord University, the regional survey found the remains of circular buildings of a type still built in the area, glass, Chalcolithic ceramics, and later Parthian-era Londo pottery, which, based on previous research, is thought to date from the 3rd-2nd century BC and is one of ancient Iran's major types of pottery. The team will announce further findings in the future, but evidence from the first phase of the study points to contact between local communities and neighbouring areas like the Oman Sea and Persian Gulf in the south and Kerman, Sistan, and East Baluchistan in the north, as well as the continuation of certain styles and ways of life from antiquity to the present.

TEXT: Lucia Marchini



Beyond Aksum

Excavating the ancient Ethiopian town of Beta Samati

The ancient north Ethiopian town of Yeha is home to the earliest writing and the earliest standing architecture in sub-Saharan Africa. It has evidence of one of Africa's earliest complex societies, the traces of a major temple with South Arabian influence built during the 7th century BC, and has been proposed as a capital of an early 1st millennium state. Later, however, Aksum developed to the west as a capital city, and the Empire of Aksum – one of the ancient world's most influential, but least familiar, civilisations – came to dominate the region between 80 BC and AD 825.

As few Aksumite-period sites had been identified around Yeha, it was previously thought that this area was largely abandoned by the ruling classes. But survey of a 100km² area around the ancient town, started in 2009, has shown the region was not quite so abandoned after all, and the discovery of an Aksumite town just 6.5km away, with signs of thriving trade, religious activity, administrative systems, and more, is shedding light on life in the Aksumite period outside the capital.

The site, Beta Samati, was first identified after local residents pointed out a hill to researchers from the Southern Red Sea Archaeological Histories (SRSAH) project. Rather than a natural feature, investigations found that this 25m-tall mound was in fact an artificial tell, made up of debris from centuries of occupation.

The international team carried out excavations at Beta Samati between 2011 and 2016, yielding Pre-Aksumite ceramics and radiocarbon-dating samples that suggest the town was first occupied as early as 750 BC. Evidence for small-scale glass and metal production along with Aksumite coins from the 4th to the 7th century AD, and bowls and cups for storing and consuming food were found among the rectangular stone buildings excavated at the top of the tell. Activity at the site continued into the Late Aksumite period (AD 580-825), with radiocarbon dating placing the final stages of occupation in the mid 7th century AD. Through its long life, the town experienced a number of major changes, not only the ascendancy of Aksum, but also the move from polytheism to Christianity, and the arrival of Islam in Ethiopia, marked by events like the King of Aksum granting refuge to early Muslims in AD 614.



LEFT Coins from Beta Samati. From left to right, there are: (1&2) two bronze coins of King Armagh (possibly the king who granted refuge to early Muslims in AD 614) from c.AD 600-630; (3) a bronze coin of an anonymous king, possibly from the first half of the 5th century AD; (4) a pre-Christian silver coin of King Ezana (who converted the Aksumite Empire to Christianity) from c.AD 300-330; and (5) a bronze coin of King MHDYS from c.AD 450.

PHOTOS: Ioana Dumitru/Antiquity Publications Ltd



Changing church

At the base of the tell, the team excavated the remains of a rectangular Aksumite basilica. This was similar to Middle (AD 380-580) and Late Aksumite Christian basilicas at Aksum, but its rectangular layout without an apse suggests that the Beta Samati basilica is older than these counterparts in the capital. Radiocarbon-dated seeds point to the building having been in use as early as the 4th century AD.

Michael Harrower, Associate Professor of Archaeology at Johns Hopkins University and lead author of a paper in *Antiquity* outlining the results of the excavation, explained the importance of this discovery: 'We know that Aksumite King Ezana converted to Christianity in the 4th century AD. However, we don't know very much about how this influenced people outside the capital city of Aksum. Beta Samati shows that, in a town ancillary to the capital, Christianity appears quite early, and there was an interval of transition from polytheistic to Christian practices.'

Among the finds relating to early Christian worship were incense burners and an intriguing soft-stone pendant inscribed with a cross and what – if read in a radial pattern – could be interpreted as the word 'venerable' in Ge'ez, an ancient Ethiopian language still used by the Ethiopian Orthodox Church today. Surprisingly, 49 ceramic animal figurines and bucrania (with some resemblance to examples about a millennium older from Ona-period sites in Eritrea) were found in the basilica, hinting at a blend of pagan and early Christian traditions in the town.

Not only did archaeologists uncover artefacts related to worship and ritual, but they also excavated more secular objects, like stamp seals and tokens probably used in trade and administration in and around the basilica. These reflect the different spheres of activity taking place at the basilica, and also highlight Beta Samati's role as a regional administrative and commercial hub, connecting the capital Aksum to the Red Sea and beyond.

Other objects excavated – including a millefiori glass bead, probably produced in the eastern Mediterranean, and a fine gold ring with a carnelian intaglio engraved with the image of a bull's head above a vine or wreath, which has been tentatively dated to

LEFT Excavations at Beta Samati near Yeha have found evidence of occupation from the 8th century BC to the 7th century AD, challenging the previous theory that the Yeha area was largely abandoned after the Pre-Aksumite period.

BELOW A stone pendant found just outside the eastern basilica wall. On the left is an incised cross and on the right are letters that – if read in a radial pattern – could be interpreted as the word 'venerable' in Ge'ez.



RIGHT This gold ring with a carnelian intaglio resembles Roman rings, but the style of the engraved bull's head above a vine or wreath is different.



the Late Aksumite period and shows some signs of Roman influence in its composition – bear further witness to cultural and commercial exchanges.

Michael explained, 'They reveal that the Empire of Aksum, including towns like Beta Samati, were very well connected to long-distance trade networks that moved goods back and forth to the Mediterranean. These included amphorae that may have contained wine, and pottery such as African Red Slip (terra sigillata).'

With plenty of imported items like these present at the site, it is clear Beta Samati was far from neglected after the Pre-Aksumite period, but for now the reasons why the town's occupation came to an end in the 7th century remain uncertain.

Beta Samati is just one of 84 sites around Yeha identified by the survey that have the potential to change our understanding of the region's history. Michael said, 'There are a wide range of sites that we hope to work on. One of them, Sefra Aboune, is a Pre-Aksumite site that my colleague Dr Ioana Dumitru hopes to further investigate given its apparent importance in obsidian production and trade. We look forward to continued collaboration with Ethiopian colleagues, including Kifle Zerue (Aksum University) on these and other issues.' ■

FURTHER READING

Michael J Harrower, Ioana A Dumitru, Cinzia Perlingeri *et al.* (2019) 'Beta Samati: discovery and excavation of an Aksumite town' in *Antiquity*, vol.93, no.372 (doi.org/10.15184/aqy.2019.84).



Charles Higham on...

“ABSORBED TO THE POINT OF HAVING TO BE REMINDED TO SIGNAL THE TIME FOR TEA, I TRACKED DOWN THE ARM.

Charles Higham is a Professor at Otago University in New Zealand, and an authority on Cambodia's Angkor civilisation and Ban Non Wat in Thailand.

THE LURE OF METAL

After six seasons of excavations at Ban Non Wat in north-east Thailand, one could almost be forgiven for becoming a bit blasé about finding yet another aristocratic Bronze Age burial, though, for me, the anticipation of discovery was ever present. Until we came across our first elite grave at this incredible site, the Bronze Age of South-east Asia was somewhat enigmatic, for the first metal seemed to have had no impact on the societies involved. This situation was made the more unusual by claims for such early copper metallurgy that the Bronze Age seemed of very long duration and socially static. All that changed when we finally nailed down an accurate chronology, making the Bronze Age much shorter, and any change more rapid.

As for the absence of social change, that all evaporated in one afternoon, when we uncovered Burial 20 at Ban Non Wat. This massive grave contained two male skeletons that had been partially exhumed and then reinterred, one with his head perched on long bones and looking towards the rising sun. Instead of the typically narrow grave for the period, associated with a couple of pots and some personal ornaments, this grave was 5m by 3m, and contained not only 80 fabulously decorated pots, but a bronze socketed axe and many shell ornaments. It was the harbinger of rows of equally wealthy elite graves, and, in our final season, my Thai colleagues and I found ourselves tracing another grave containing a row of fine ceramic vessels. Then my trowel reached the top of an arm ornamented with a *Trochus* shell bangle, a marine species that must have travelled hundreds of kilometres to reach Ban Non Wat nearly 3,000 years ago.

Totally absorbed, even to the point of having to be reminded to signal the time for morning tea, I tracked down the arm, logging a second, then a third, and then yet more bangles. By the time I reached the wrist, I had tallied 37, and then, with the afternoon shadows lengthening, marble bangles. No

RIGHT Burial 260 from Ban Non Wat, one of many aristocrats of the early Bronze Age (about 900 BC), with (INSET) a Solomon Island chiefly couple wearing similar shell bangles.

bookmaker would have taken odds that there would not be a matching set on the other arm, and indeed there was.

My excavations have been nobly supported by Earthwatch volunteers and, over the seasons, I have often been asked, 'Did that person actually wear all those bangles at once?'. I was reminded of this last month when in the British Museum. My wife Polly and I now spend the summer in England, and we relish the opportunity to visit unfamiliar archaeological sites, and those that bring back a memory or two. There was a special exhibition in the British Museum on the Solomon Islands and, since we cruised there last year, we went in. Among the displays, I came across a late 19th-century photograph of a Solomon chief and his wife, and it took me right back to my Bronze Age aristocrat and that question, for he clearly did wear a lot of shell bangles during his lifetime.

From the Solomons, we made our way to Roman Britain. I wanted to see if the wall plaster that we excavated at Verulamium in 1958 was still being displayed. That summer had been one of the most engrossing excavations in my experience. We opened a large area of what had been shops near the centre of the Roman city. In one afternoon, I recovered about 30 Roman coins where a fastidious owner had swept clean the floor into a pit in the





ABOVE The votive golden plaques from the Ashwell Hoard in Hertfordshire were dedicated to a newly identified Roman goddess, Senuna, and to Minerva. The largest is 18cm high.

corner of a back room. As each appeared, we cleaned it and tried to recognise the emperor who minted it. One memorable afternoon, Professor Frend appeared out of a deep well holding a magnificent bronze statue of Minerva.

Senuna's shrine

We have a cottage in Ashwell, the most northerly village in Hertfordshire, and each day I exercise on my bike round the country lanes. Last year, a meeting was advertised in the 14th-century church, reporting on the discovery of the Ashwell Hoard. The village is known for the springs that emerge from the chalk, the source of the River Cam, and the clear water attracted Bronze and Iron Age settlement, seen in the Arbury Banks hillfort. Years ago, my brother helped to excavate a Roman site, and it was there that a metal-detectorist came across a fabulous discovery in 2002: a hoard of gold and silver jewellery, decorated plaques, and the silver figurine of a female deity. Inscriptions on the plaques revealed that they were dedicated to a hitherto unknown goddess named Senuna. It seems that she was a British river goddess, doubtless associated with the Ashwell springs and the crystal-clear water that flows from them.

Four seasons of excavations followed this discovery, and a ritual centre was unearthed with a shrine dating to the 2nd century AD, in which a statue of Senuna was probably housed. There were many votive deposits and building foundations. The church meeting was packed, and the importance of the discovery outlined by experts from the British Museum. A handsome volume has been published, running to 365 pages, beautifully illustrated and now gracing my

bookshelf in Dunedin. The silver plaques have been expertly restored, and we even have the names of the votaries: Firmanus, Lucilia Sena, and Herbonianus, among others. I was naturally delighted to find that the Ashwell Hoard is now displayed in the British Museum. By consulting the map in the report, I found that my bike ride took me down a lane right next to the pilgrimage site. So, on a hot summer's day with the wheat navel-high, I made my way across the field and found myself spotting sherds and Roman tiles, to confirm that I was in the right place. I have mixed feelings towards the army of hopefuls with their metal-detectors, combing the countryside for loot, but at least on this occasion, the results were positive, with full restoration of the gold and silver, and a major excavation followed by a complete site report.

My two years studying Roman archaeology under Sheppard Frere at the Institute of Archaeology remain memorable indeed. The latest issue of the journal *Antiquity* has a picture on the cover dating to 29 July 1939, showing Stuart Piggott and W F 'Peter' Grimes, and taken by O G S Crawford during the excavations at Sutton Hoo. It was Peter Grimes who allowed me to enrol for the post-graduate diploma at the Institute in October 1957, when I was 17 and had two years to fill before going up to Cambridge. He had, that month, just succeeded Gordon Childe as Director, and I will never forget his kindness and support, nor his intuitive direction of the Iron Age dig in Pembrokeshire that I joined. The same summer, Sheppard Frere excavated at the Roman villa of Bignor, and I was a very willing volunteer. Having rented a cottage this summer in West Sussex, we decided to have a return visit. It is in private ownership and, having parked the car, I said tongue in cheek at the entrance that I should be allowed

in free. A rather startled lady asked why. 'Because I excavated here in 1958', I said. She mentioned that permission from the owner, Mr Tupper, would be needed and the name immediately brought back memories of a Captain Tupper, presumably the grandfather of the present incumbent, arriving to see what we were turning up. Having admired the exceptional mosaics, we wandered down to an outbuilding that I recall being asked to clear of fill. It turned out to be a bathhouse with a well-preserved hypocaust system that another young volunteer, Barry Cunliffe, helped uncover. He, of course, went on to excavate the even bigger villa at Fishbourne near Chichester.

Our summer was spiced with more archaeological highlights such as these. We always visit son Tom and family in Oxford, and our stay there coincided with the splendid exhibition at the Ashmolean on feasting at Pompeii. This has already been featured in CWA 97, but, if I might add a sentence or two, it is absolutely worth a visit. There was one pot there that particularly drew my attention. It was quite large, with little runners inside where mice could exercise. Well fattened, they would have been plucked out to be rolled in honey for one of the feasts depicted on the murals. There was also a painting of a baker's shop, including bread rolls for sale, which were identical to the real thing, preserved in the volcanic ash.

As the evenings began to draw in, and we prepared for the long flight home, the last three days in Cambridge were taken up with a retreat, where associates of Eske Willerslev's ancient DNA lab meet to discuss their latest findings and plan future projects. Eske holds chairs in Copenhagen and Cambridge, where he is a Fellow of St John's College. His team flew over from Denmark, and the meeting was held in what used to be the Divinity School, now returned to the college and converted to include a splendid auditorium. With the lead research done by Hugh McColl, now a postdoc in Copenhagen, we have published a pioneering paper in *Science* on aDNA that has, at a stroke, cracked any further debate on how rice and millet farmers expanded into South-east Asia. Following on from this breakthrough, I gave a presentation on the potential of South-east Asian sites that struck a chord with Eske, and further lab testing for surviving aDNA is now under way. These are exciting times. ■

City heights

In 333 BC, Alexander the Great took the town of Sagalassos, high up in Turkey's Taurus Mountains, by storm. His biographer describes it as 'not a small city', but investigations by the Sagalassos Archaeological Research Project, coordinated by the University of Leuven, Belgium, have revealed the origins of this ancient site to be more like a hilltop settlement.

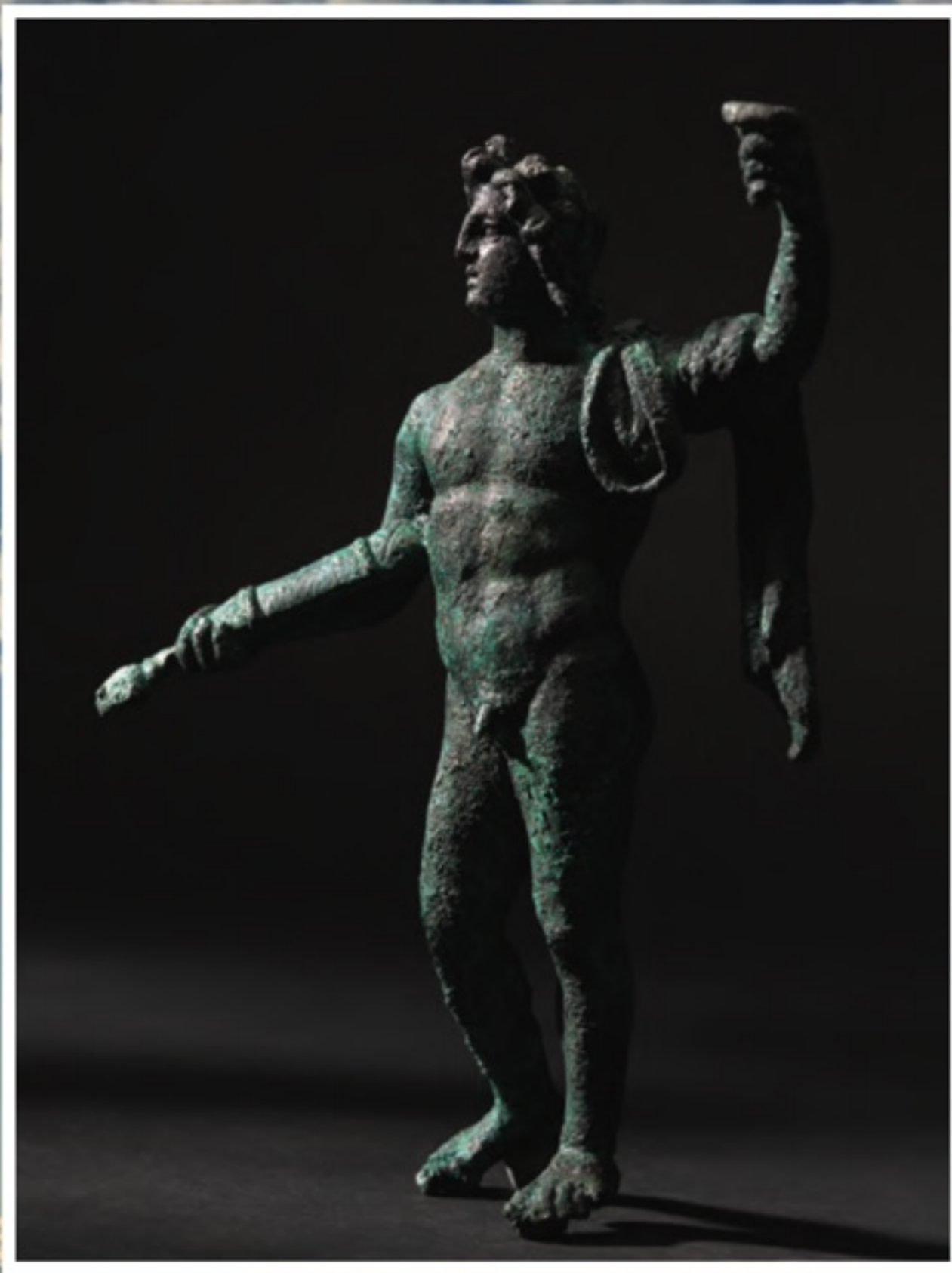
From around 200 BC onwards, possibly with implicit Seleucid support, Sagalassos developed into the prominent urban settlement within its extensive territory, and it continued to serve as the main regional centre into the Byzantine period. The *pax Romana* introduced by Emperor Augustus created unparalleled conditions for growth of the city. Hadrian offered privileges to Sagalassos, which consolidated its urban splendour during the Antonine dynasty. Later, the integration with far-off markets of the Roman period was transformed into an increased dependency on the city's own specialised production and more local exchanges, providing enough of a buffer to withstand the many political and ecological threats of late antiquity.

Finds from the Roman Imperial period include this 13.6cm tall copper-alloy statuette of Alexander the Great (**INSET**), found in the site's gymnasium. Dating from the 1st-3rd century AD and based on a statue of the Macedonian king created by the sculptor Lysippos, the small figure once held a spear (now missing) in his raised left hand and still presents a sheathed sword with his extended right hand. It is one of more than 300 artefacts currently on display in the exhibition *Meanwhile in the Mountains: Sagalassos* (art.ykykultur.com.tr/exhibitions/meanwhile-in-the-mountains-sagalassos). Running at Istanbul's Yapı Kredi Cultural Centre until 28 May 2020, the exhibition explores the details of everyday life in the ancient city. ▣

TEXT: Jeroen Poblome

IMAGES: The Sagalassos Archaeological Research Project

Please send your images to cwa@world-archaeology.com. They must be high resolution (300 dpi) and in landscape format, ideally 20cm high by 30cm wide.





Trojan War

THE ARCHAEOLOGY OF A STORY

Many cities have fallen to subterfuge, fire, and the sword over the millennia, so why does our fascination with Troy remain so keen? Perhaps it is because Homer's *Iliad* and *Odyssey* have become potent examples of the power of words. These tales of derring-do and destructive depravity coloured the Greek, Roman, medieval, and modern worlds so vividly that they have created a richer archaeological legacy than many real events. **Lesley Fitton** and **Victoria Donnellan** led Matthew Symonds through the twists and turns of a tale that changed the world.

It is hard to say where the story started. Before Homer, that's for sure. The shadowy figure credited with composing the *Iliad* and *Odyssey* is generally believed to have lived in the 8th century BC, when writing literature was still a new fad in the Greek world. We do not know whether Homer created written versions of these epics, but we can be certain that tales of the Trojan war were not created to capitalise on this new way

of reaching audiences. Instead, the stories were much older, and had been finessed by generations of bards, who would recite the poems from memory, and doubtless tinkered with them as they went along. Even then, the themes of love and war ran deeper still. Depictions of a city under siege or a naval taskforce appear on a Mycenaean silver vessel and a Bronze Age fresco from Thera, while echoes of source material from Anatolia and the Near East reverberate

through the Homeric literature. If all of these strands needed a suitable setting to weave them together, they found one in the Late Bronze Age Troy of c.1700-1200 BC. This sprawling city commanded the mouth of the Dardanelles, where the Mediterranean merges with the Black Sea, and East meets West. It proved the perfect time and place for a story of gods and mortals, fate and choice, love and hate, and the utter ruination of war.

IMAGE: Museo Archeologico Nazionale di Napoli

The *Iliad* and *Odyssey* were merely two elements of a much longer epic cycle about the Trojan war, but they are the only segments that survive complete today. This is in large part due to the fanatical following that Homer inspired in the Classical world. His contribution came – assuming he existed at all – during what could be thought of as a Greek renaissance, when the Hellenic world rose phoenix-like from the ashes of the Mycenaean states, which had collapsed four centuries or so earlier. As well as providing a heroic past for various city states, the alliance of Achaeans – Greeks – who fought at Troy provided a handy reference for the growing sense of ‘Greekness’ in Homer’s day. If tales of Troy helped to forge a new Greek world, though, its influence on the Roman one was even starker. The Romans traced their lineage to Aeneas, a Trojan refugee who had a bit part in the original myth, before receiving his own spin-off from the poet Virgil. The resulting *Aeneid* swiftly established itself as Rome’s national epic. And where Rome went, medieval Europe followed. In the scramble to be seen as the empire’s heirs, by the 12th century most European powers purportedly – and falsely – claimed Trojan ancestry.

Centuries later, Troy was there once again at the dawn of modern archaeology, when Heinrich Schliemann – himself no stranger to mythmaking – set out on a quest to prove that Homer’s words were grounded in genuine events. So it was that the story became the driving force behind the rediscovery of the real-world location at the heart of the Trojan war cycle. Meanwhile the influence of the *Iliad* and *Odyssey* continues in a more or less recognisable guise in art, literature, and film right down to today. And just like the ancient bards, modern storytellers still refashion the material to suit audiences’ expectations, so that almost 3,000 years of changing expectations about love, war, sacrifice, and heroism can be traced like ripples through retellings of the Troy story. It could not be more fitting, then, that a major exhibition at the British Museum has assembled a beguiling blend of ancient and modern materials to tease out the myth and reality of Troy (see ‘Further information’ box on p.22).



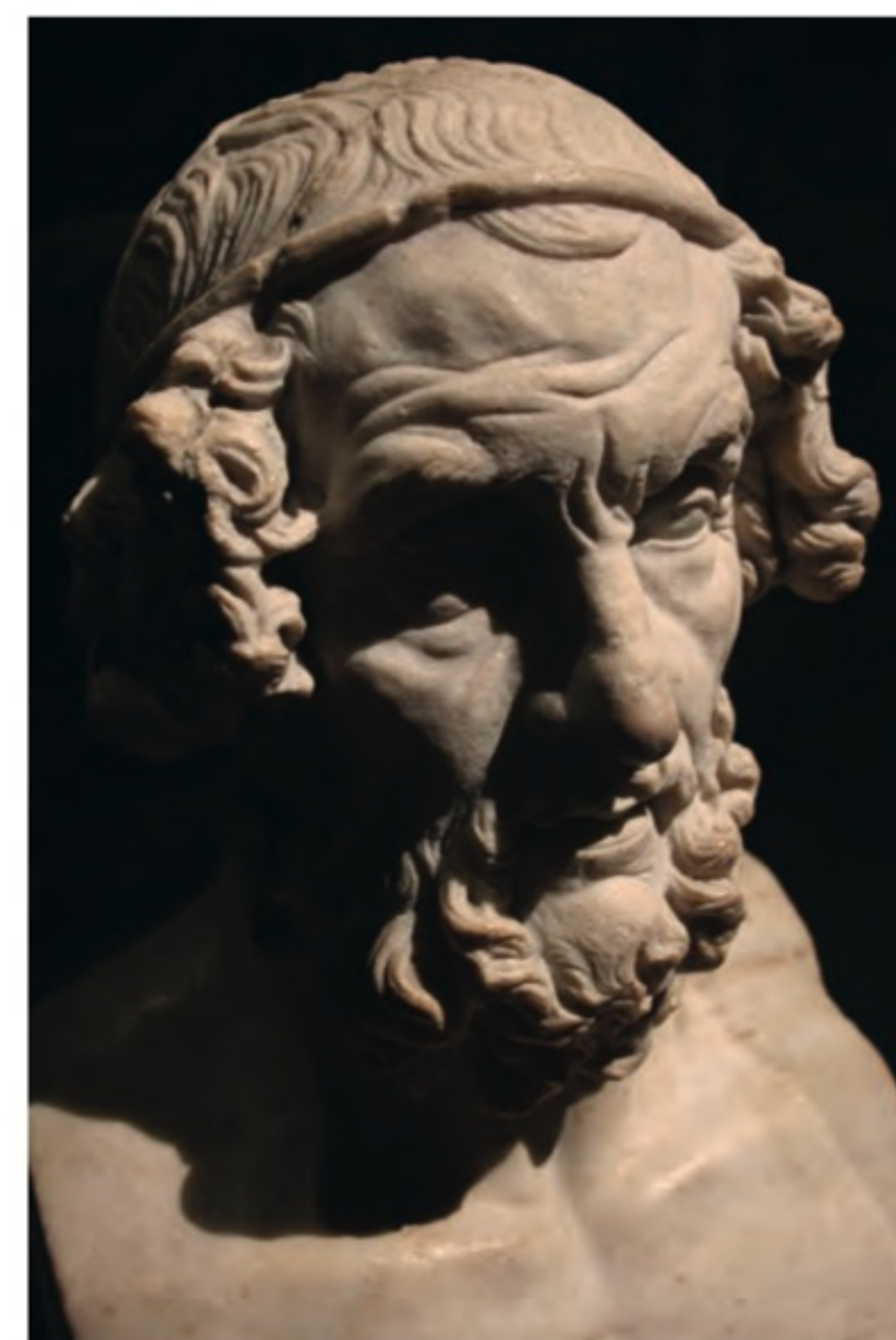
The fable that launched a thousand stories

Homer explicitly set his story in the past, and objects that would have already seemed archaic to 8th-century Greeks litter his narrative. Modern attempts to pin down how many of the objects really existed – such as the bronze weapons or helmet made from boars’ tusks he mentions – were once called ‘Homeric archaeology’. In the ancient world, too, the popularity of the stories prompted a desire to visit the site where they played out. Most ancient commentators accepted that the city of Ilion, which remained occupied until the 7th century AD, was Homer’s Troy. This identification was aided by Homer seemingly referring to the city in question as both Troy and Ilios. The reason for these two names remains unclear, but some have suggested that Troy formed the overall kingdom, while Ilios was the specific city. If so, it would help explain why the wider region is still known as the Troad today. As for the city’s Bronze Age inhabitants – the Trojans – they probably belonged to Anatolia and the milieu of the Hittite Empire. It is one of the paradoxes of the Trojan war that what became the greatest Greek myth was not set in Greece, but a far and distant land.

For some, the only important question concerning the Trojan war is whether it happened in any form. ‘This is not an original observation,’ says Lesley Fitton, exhibition curator and Honorary Research Fellow in the British Museum’s Department of Greece and Rome, ‘as ▶

OPPOSITE A deadly gift: Trojans pull the wooden horse left by the Greeks inside the walls of Troy, unaware that warriors lie concealed within. It is one of many incidents in the Trojan war that received attention from ancient artists. In this case, it is a fresco from Pompeii, dating to the 1st century AD.

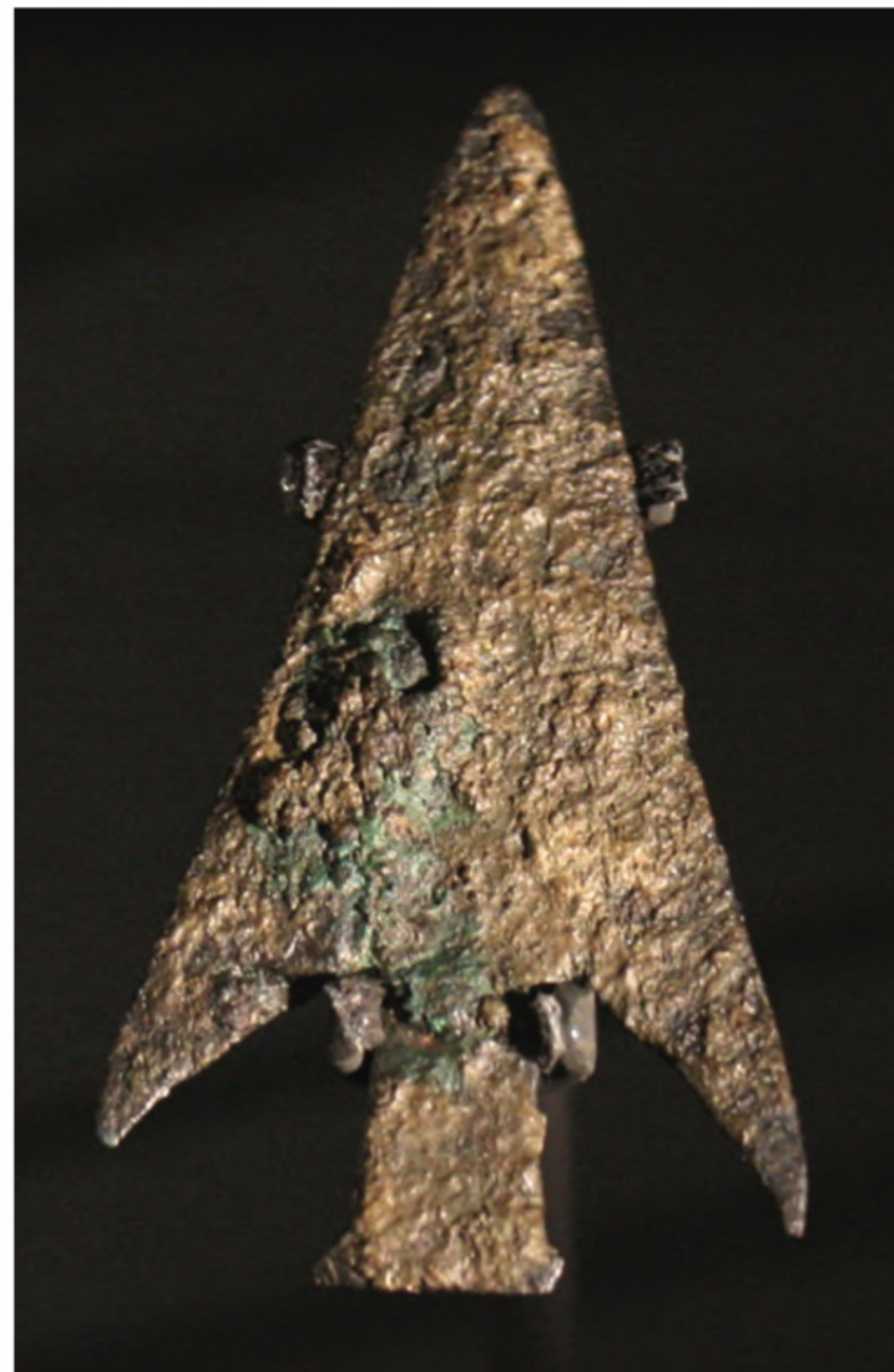
BELOW Homer, as imagined in a 2nd-century Roman copy of a Hellenistic sculpture. His weather-beaten features would be appropriate for the itinerant lifestyle of a bard.





ABOVE Hittite texts present an intriguing source of evidence for the events that played out at Late Bronze Age Wilusa, which most scholars accept is Troy. This example, from Hattusa in Turkey, refers to an alliance between the Hittites and a king of Wilusa named Alaksandu, which is reminiscent of Paris' alternative name in the *Iliad*: Alexandros.

RIGHT A relic from the real Trojan war? This arrowhead was found at Troy, where various Mycenaean-style weapons appear in a destruction deposit dating to around 1180 BC.



PHOTOS: M. Symonds

Thucydides made it in the 5th century BC, but Homer was a poet, not a historian. To compare the *Iliad* and the *Odyssey* to real events is to compare apples and pears. If you're trying to link a poem to history as we now understand it, you've already got a big problem. You're trying to take a tradition that fits in the hinterland between history and myth, and match it against hard evidence. What would we need today to make it "historical"? The answer is solid archaeological evidence in the form of material culture, and supporting documentary evidence. So, with that as a caveat, we do not have hard evidence for the story of the Trojan war as told by Homer. There is no independent written record of, for example, King Agamemnon.'

'But if we wanted to look at the issue more positively, we could ask "Well, what do we have?". And we now know far more about the Late Bronze Age, which provides a feasible background for the Trojan war, than Heinrich Schliemann did. We also have a much better understanding of the superpowers in the eastern Mediterranean and the ways that they were armed and fought among themselves. This was a generally warlike and combative society, and people were constantly undertaking major or minor expeditions against each

other. We also know quite a lot about diplomatic relations, but not as much as we would like. These documents tend to come from Anatolia and the Middle East, but not Greece, where we only have documents in the Linear B script, which are inventories of goods from the so-called "palaces". But the documents are enough to show that these major centres of power had a military dimension, so they could have mounted big expeditions.'

'Where it gets much more interesting is with the Hittite written evidence, which has come into clearer focus over the last 20 to 25 years. It gives us some really tantalising clues, and that rarest of things in archaeology: agreement. Most scholars now accept that Late Bronze Age Troy was known as Wilusa. That is intriguing in itself, because very ancient Greek had a "w" sound that dropped out in later Greek. So Wilusa equals Ilios. We also know from the Hittite texts that there was a ruler of Wilusa called Alaksandu, which is close to Alexandros or Alexander: an alternative name for Paris used in the *Iliad*. So, this gets more and more exciting, but in a way more and more frustrating. What the tablets tell us is that in the 13th century BC, the Hittite empire was focused on Hattusa, which is a long way east. So Troy was a bit peripheral. And it was disputed

territory. The Hittites were constantly having difficulties with rebellions in the region, but by the end of the Late Bronze Age they seem to have got Troy back under control as a vassal state.'

'One tablet even refers to a period when Wilusa was fought over by the Hittites and an enemy called the Ahhiyawa, which instantly brings to mind Homer's Achaeans. Where do these scraps of evidence get us? The conclusion, I'm afraid, is not a very firm one. In the modern world, as throughout the whole history of this conversation, there are believers and unbelievers. Some people

BELOW This 3rd-century sarcophagus from Ephesus captures the moment when Patroclus' corpse (top left) is brought before a despairing Achilles (seated, right).



take the story more literally than others. But it's worth adding that one of the destruction layers excavated at Troy dates to 1180 BC, and it is rather interesting. Manfred Korfmann, who excavated Troy from 1988 to 2012, started from the position of "Let's put Homer to one side: I'm excavating Troy as an interesting Anatolian site in its own right." But, by the end of his career, he felt the destruction deposit was such a good candidate for the Trojan war that the onus was now on the people who said it didn't happen to prove it. He thought there was enough archaeological evidence for the city being sacked by enemies bearing Mycenaean-style weapons to make it far more likely that it did happen. But his view is not universally accepted, not least because the Mycenaean states are thought to have fallen apart 20 years earlier in 1200 BC, so could they really have mounted an expedition in 1180? The jury is still out.'

Love interest

'In a way,' says Victoria Donnellan, project curator in the British Museum's Department of Greece and Rome, 'it doesn't matter whether it happened or not. There are elements of reality to the story, but its power is that it speaks to human truths and the experiences of real people, even if its heroes and heroines are fictional. That is why it has been so successful. We all know that it covers warriors and fighting, but it is also a love story, or more accurately love stories. At ▶

PHOTO: Museo Archeologico Nazionale di Napoli; M Symonds



Two takes on Helen's elopement:

ABOVE Helen is guided onto Paris' ship, her expression betraying inner misgivings, as seen on a fresco dating to the 1st century AD from Pompeii.

RIGHT The same moment, as captured on an Etruscan funerary urn, probably from Volterra, Italy, and dating to around 125-100 BC. Here, a seated Paris watches Helen being loaded aboard in a similar fashion to personal possessions, such as the vase.



the heart of it, of course, is Helen and Paris. Helen was married to Menelaus, before Aphrodite delivered her to Paris, so was she an unwilling pawn of the gods, or flirting with someone that she shouldn't have been? What she could or couldn't do about her elopement is still a fascinating question. In the ancient story, she's pretty much the only woman who has what could pass for a happy ending, as she goes back to Sparta with Menelaus. It does seem rather unconvincing to a modern audience that they could continue living happily together after all that had happened as a result of Helen's relationship with Paris.'

'Someone else with a love story is the great warrior Achilles. There was a clear idea in the ancient world that he and fellow soldier Patroclus were not just comrades in arms, but also lovers. It is after Patroclus was killed by the Trojan warrior Hector that Achilles was driven into a murderous rage. In the medieval versions, there's a great interest in love as a motivating force, but this particular relationship was no longer highlighted, and a Trojan princess became Achilles' love interest. It's similar in the 2004

film version, where Patroclus was firmly presented as Achilles' cousin.'

Such scenes – among many others in the Trojan war – provided plenty of scope for ancient artists. One Greek drinking cup dating to around 500 BC shows Achilles tenderly bandaging Patroclus' wounds, while around 750 years later a Roman-era sarcophagus from Ephesus captures the warrior's despair at the sight of Patroclus' limp body. Meanwhile, Helen is shown reacting to her departure with Paris in various ways. Often the gods goad her on, but one 2nd-century BC Etruscan funerary urn shows her being loaded onto Paris' ship like so much loot. Perhaps the most striking study of Helen's feelings is provided by a fresco from Pompeii, which captures an expression riven with inner turmoil as she is guided to the ship's gangplank. Such a scene is perhaps particularly surprising in a Roman house, because in Virgil's telling of the story it is the Trojans – and therefore Paris – who are the good guys. It was this switch that helps explain why so many 12th-century European kingdoms were desperate to prove their descent from survivors fleeing what is now Turkey.

'Today, it does seem both extraordinary and meaningful that Europe was once looking to a band of refugees from an eastern city for its sense of self-identity,' says Victoria. 'The Romans play a big role in all of this, because they trace the foundation of Rome back to the descendants of Aeneas. According to the myth, he was the son of Aphrodite, and she instructed him to leave the city and thus preserve the lineage of the Trojan royal family. So he wasn't a coward, he didn't run away. Aeneas flees the city with his father and son, and has a long and difficult journey, just like Odysseus. Virgil uses this to establish a lineage for Rome's emperors, and the story becomes incredibly important in Roman art and literature. These go on to be influential in medieval Europe, which is very Latin-literate. Under their influence, Aeneas becomes a model of piety, devotion to family, and even Christian values. So, for example, the immensely famous fresco in the Vatican, *The Fire in the Borgo*, features the motif based on Aeneas carrying his father from Troy. A very conscious link was being drawn, that the Popes too had saved and preserved Rome and the Church of Rome.'



Two sides to war. The Greek warriors did not spend all of their time fighting, and here Achilles is seen playing a board game with his cousin Ajax (LEFT). When combat did erupt, though, it was often brutal, as when Achilles slayed Penthesilea, queen of the Amazons (RIGHT). Both these images, on separate amphorae, date to the 6th century BC.

PHOTOS: British Museum



Another reason why medieval sympathy switched from the Greeks to the Trojans is because for centuries no one in Europe could read Classical Greek. As a result, the Europeans were dependent on the Latin – Roman – versions, which unsurprisingly painted their supposed ancestors as the wronged party. ‘People disapproved of the Greeks,’ says Victoria. ‘Achilles was seen as a degenerate. It really turned around what we might think of as the natural reading of the story. Today, we’re influenced by the Renaissance tradition, which grew from the rediscovery of the Greek texts. Because people became so fascinated by

the Homeric version, the Greeks have taken centre stage again, but the popularity of both sides has waxed and waned over time. In part, that’s because neither side is painted as “good” or “bad”: both Greeks and Trojans were capable of heroism and horrors.’

The Romans were not just interested in putting a new spin on the story, they also lavished gifts on the city their forebears supposedly hailed from. Because Ilion was still a living settlement in the Roman era, it provided what was effectively a tourist destination. Julius Caesar, Augustus, and Hadrian were

among the VIPs the city hosted. It is not clear whether any of the ancient Bronze Age fabric remained visible for them to behold, but towering burial mounds were visible on the surrounding plain. These became a locus for activity, with the tumulus associated with Achilles proving a particular draw. Under the emperors, Ilion received public buildings and tax breaks, meaning that the popularity of a story brought greater amenities and prosperity to its real-world setting. This created such jealousy among neighbouring towns that a geographer from nearby Scepsis argued that ancient and modern Ilion were two different places. This idea was picked up and repeated by the influential Roman geographer Strabo. The citizens of Scepsis would doubtless have had a good chuckle if they had known how much confusion Strabo’s red herring caused later scholars.

Enter archaeology

‘It is the myth that leads to the archaeology,’ says Lesley. ‘It is totally because of the story. In the 18th century, big disputes break out, mainly between travellers and armchair scholars, about ▶

ABOVE This silver Roman cup, dating to around 30 BC-AD 40 and found in Denmark, shows a kneeling Priam begging Achilles for the return of Hector’s body.

LEFT A portrait of Heinrich Schliemann, painted in 1877 by Sidney Hodges (1829-1900). Schliemann’s determination to reach the bottom of the mound at Hisarlik, where he believed Homeric Troy lay, led him to engage workmen to open a gigantic trench across the site.

BELOW A photograph taken within this trench conveys its scale, with the plain of Troy visible beyond.

PHOTOS: Nationalmuseet Danmark, photograph by Roberta Fortuna and Kira Ursem; Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte, photograph by Claudia Klein; from Heinrich Schliemann, *Atlas Trojanischer Altertümer*, Leipzig, 1874



whether the events were real, or just an invention. Among the believers, a general belief developed that the city of Troy lay at a place called Bounarbashi. In 1801, a relatively unprepossessing mound at Hisarlik was correctly identified as Ilion, but because Strabo insisted ancient Troy lay elsewhere this breakthrough didn't cause much excitement. So, according to Schliemann – who never knowingly understated his own mythology – it was left to him to discover ancient Troy at Hisarlik, after he turned up in the Troad with Homer in one hand and a spade in other. We now know that, in common with pretty much everyone else, Schliemann originally thought Troy lay at Bounarbashi. It was Frank Calvert, who had conducted small excavations at Hisarlik but lacked the resources to pursue them further, that convinced Schliemann the answer lay at Hisarlik.'

'It has become such a cliché to say that Schliemann dug Troy like digging potatoes, but he was of his time, and in some respects even ahead of his time. He did make some terrible mistakes, but he learnt as he went on. Schliemann excavated at Troy for 20 years, on and off, and by the end of his campaigns he had a much better sense of stratigraphy. He always had quite a good sense of detailed recording, but frustratingly this did not always include the information that modern archaeologists would love to have. But if you look at his publications, he draws huge numbers of finds, and he was a pioneer in the use of photography in archaeology. Unfortunately, when he arrived at Hisarlik, he was obsessed with the notion that Priam's Troy would be at the lowest level. This belief that he had to get to the bottom was terribly damaging. He opened a huge trench, and had teams of up to 200 workmen using trucks pushed along rail tracks to take spoil away. And, of course, he went straight through Late Bronze Age Troy – which is Troy VI to VIIa in the site phasing – and claimed Troy II as Priam's. But it was not very impressive, and we now know it's far too early, dating back to about 2550-2300 BC.'

'We know this worried Schliemann. In public he said he'd found Homeric Troy, and would brook no denial. But, in private, he wrote to Charles Newton, at

the British Museum, and regretted the small size of the city. He asked how a site smaller than Trafalgar Square could withstand a ten-year siege. Although he did find treasure, he pointed to the generally low level of material culture: it's not the accoutrements of heroes. So he realised that something was wrong. Part of the reason Schliemann kept going back to Troy was because he knew that he had not got to the truth of this matter. The other thing he knew was that he needed a way to link Troy with the Greek Bronze Age world, somewhere like – say – Mycenae. Finally, at the beginning of 1890, he discovered Mycenaean pottery at Troy. But he found it associated with Troy VI. There's a clear indication that this started a dawning realisation in Schliemann. But then, later on in 1890, he died. It's as though he'd been given the key, but didn't have time to turn it. So poignant! Love him or hate him, and he was difficult in many ways, Troy was his life's work. He knew his interpretation wasn't quite right. Then he was given the answer, but didn't get a chance to act on it. I do feel sorry for that.' ■



ABOVE A terracotta face pot dating to c.2550-1750 BC, from Hisarlik (LEFT). Schliemann knew that he needed to find a way to link Hisarlik to the Bronze Age Greek world. When suitable pottery emerged, it came from layers much later than those he had associated with Priam's Troy. This Mycenaean-style pottery pig found at Hisarlik, for example, dates to 1400-1200 BC (RIGHT). The two objects are not shown to scale.

FURTHER INFORMATION

The BP exhibition *Troy: myth and reality* runs at the British Museum until 8 March 2020. For more information, see www.britishmuseum.org/exhibitions/troy-myth-and-reality.

A fascinating book has been published by Thames & Hudson to accompany the exhibition: *Troy: myth and reality* by A Villing, J L Fitton, V Donnellan, and A Shapland.

CWA is grateful to Lesley Fitton, Victoria Donnellan, and Nicola Elvin.

PHOTOS: Staatliche Museen zu Berlin, Museum für Vor- und Frühgeschichte, photograph by Claudia Plamp; M Symonds



THE BEST HIDDEN TREASURE OF THE WORLD



A cradle of civilisations

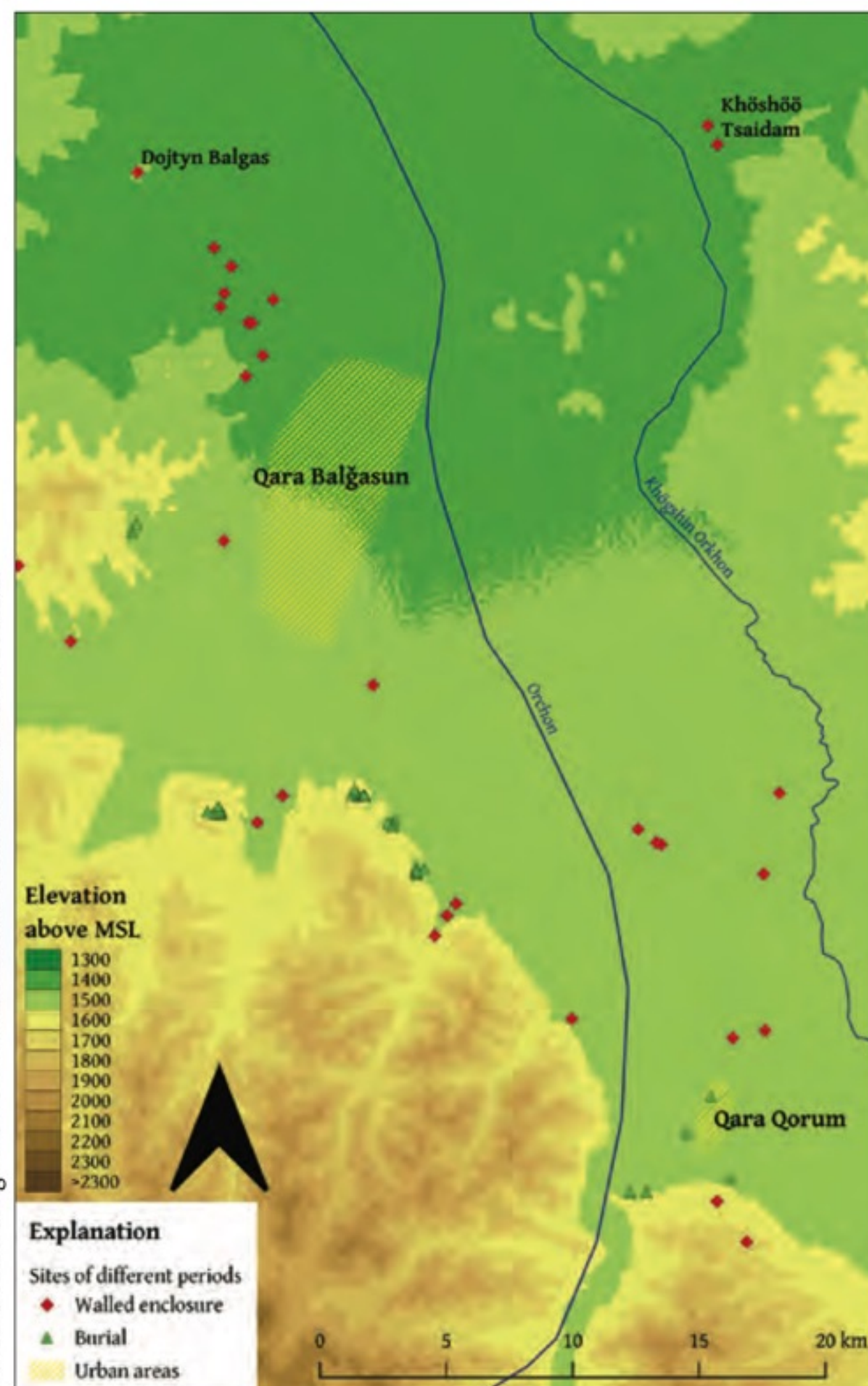


EXCAVATING NOMADIC CAPITAL CITIES IN MONGOLIA

We do not often associate nomads with cities. But two were founded – almost 400 years apart – in a region of Mongolia that nurtured successive empires. These cosmopolitan capitals reveal the unbridled ambition of their rulers. **Christina Franken, Hendrik Rohland, Tumurochir Batbayar**, and **Ulambayar Erdenebat** are piecing together life at the heart of nomadic empires.

BELOW Two nomadic empires established capital cities beside the River Orkhon in the heart of modern Mongolia. The first, at Ordu Baliq, was established in the 8th century AD and sprawled over 44km². Its ruins are still impressive today, as this aerial view looking south over the city's temple and palace district reveals.





LEFT This map of the middle Orkhon valley shows the location of the nomadic cities of Ordu Baliq (marked using its modern name of Qara Balgasun) and Qara Qorum, as well as other nearby archaeological sites.

In the heart of modern Mongolia, the Khangai mountain range embraces the lush pasturelands of the Orkhon and Tuul rivers. The Austrian Sinologist Arthur von Rosthorn named this area ‘the stronghold of Central Asia’, because the peoples occupying it often achieved dominion over other nomadic groups roaming the Central Asian steppes and beyond. Successive empires arose from this cradle of nomadic civilisations, including the Göktürk Empire (AD 552-745). Memorial complexes to two of its Khans still stand in the vast valley occupied by the middle reaches of the Orkhon river. Inscriptions on stelae found there boast about the power of these rulers and the importance of the area, called ‘Ötükan’ in the ancient Turkic language:

If you stay in the country of Ötükan and send caravans from here, you will have no trouble (O Turkic people!), if you stay in the Ötükan Mountains, you will live forever and rule over the countries!

The fall of the Göktürk Ashina-dynasty allowed the rise of the Uyghurs, another Turkic-speaking tribe, whose empire endured for almost a century from about 745 to 840. The second Uyghur ruler, Moyanchuo, chose the Orkhon valley for the site of his capital city. It was called Ordu Baliq (‘the City of the Khagan’s Encampment’) and developed into an enormous settlement. Today, its remains sprawl over 44km² of the western bank of the Orkhon river. During the 9th century, the Uyghur empire was locked in almost constant warfare with the Qirghiz, a rival Turkic group. This struggle reached its bloody denouement in 840, when the Uyghurs were divided by internal struggles, presenting their foes with a chance to defeat the Uyghur forces in the field, slay the Uyghur Khagan, and raze his capital. This devastating defeat dealt a mortal blow to the Uyghur empire. The survivors left the Mongolian steppes and

founded several smaller kingdoms in what are now the Xinjiang and Gansu provinces of China. But traces of Moyanchuo’s former capital are still visible in the Mongolian steppe. To locals, this relic of a fallen empire is evocatively known as Khar Balgas or ‘the Black Ruins’.

Capital projects

During Ordu Baliq’s heyday, it was visited by the Arab traveller Tamīm ibn Baḥr. He wrote an account of his adventures, which has been passed down to us through various texts compiled by medieval Arab geographers. Concerning the capital city of the Uyghurs, Tamīm ibn Baḥr wrote the following:

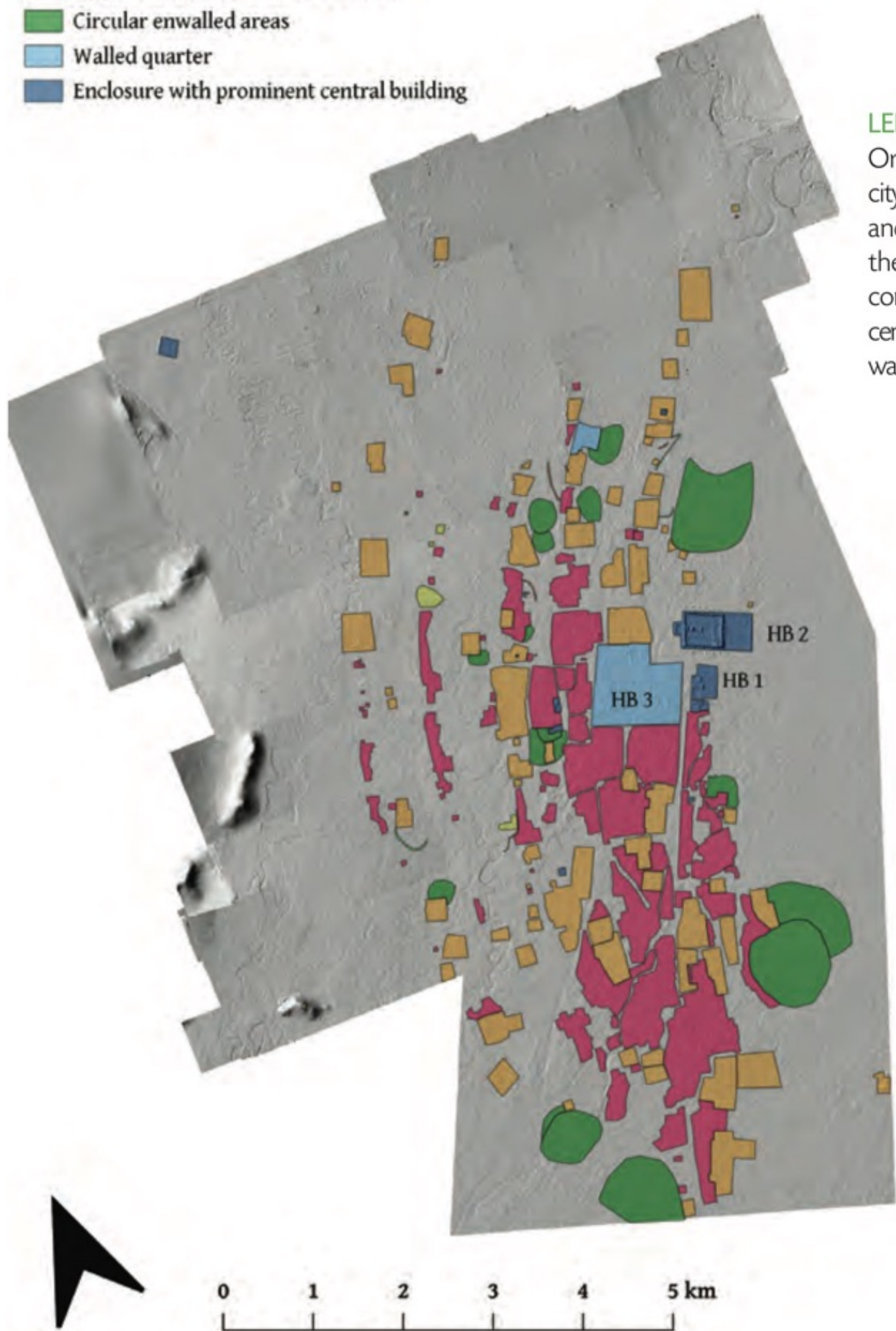
a great town, rich in agriculture and surrounded by rustāqs full of cultivation and villages lying close together. The town has 12 iron gates of huge size. The town is populous and thickly crowded and has markets in various trades [...]. He says that from (a distance of) five farsakhs [about 25km to 30km] before he arrived in the town (of the khaqan) he caught sight of a tent belonging to the king, (made) of gold. (It stands) on the flat top [...] of his castle and can hold [...] 100 men.

Further information about the town can be gleaned from the annals of the Chinese Tang dynasty, with whom the Uyghurs had a close, albeit extortionary, relationship as an indispensable military ally. The importance of Uyghur support to the Tang emperors is illustrated by the ability of successive Uyghur rulers to secure marriage alliances with the Chinese imperial house. On one occasion, the report of the embassy that accompanied a ➤

O TURKIC PEOPLE!
IF YOU STAY
IN THE ÖTÜKAN
MOUNTAINS,
YOU WILL LIVE
FOREVER AND
RULE OVER THEM!

Explanation

- Larger enclosures
- Agglomerations of small enclosures
- Circular enwalled areas
- Walled quarter
- Enclosure with prominent central building



LEFT A digital terrain model of Ordu Baliq, showing its layout. The city is crescent-shaped, with its temple and palace district (HB 2) forming the focus. A second enclosure (HB 1) contained a trilingual inscription and central building, while a densely built-up walled quarter lay to the west (HB 3).

realm developed into the greatest contiguous empire the world has ever seen. Tradition credits Genghis Khan with founding the new capital city of Qara Qorum in the Orkhon valley. However, it was his son and successor Ögedei who ordered the building of a palace, temple, and city wall in 1235. Embassies, trade-caravans, agricultural labourers, craftsmen, and artisans duly gathered at the centre of the growing Mongol Empire. Some were brought by force to serve the needs of the Mongol court; others were drawn by the Mongol rulers' famed wealth and generosity. These people came from the countries that Mongol

forces had subdued, raided, or established diplomatic contact with, including northern China, Korea, Central Asia, and even Europe. Such diverse origins gave the city a cosmopolitan character, with

places of worship and clergy serving the many religions practised within the empire: Buddhist temples, mosques, and a house of prayer for the so-called 'Nestorians', who flocked to the Church of the East after their beliefs were branded heretical by the Catholic Church.

Qara Qorum remained the capital of the Mongol Empire until 1260, when Kublai Khan seized the throne and shifted his royal court to northern China, ultimately selecting Dadu – now known as Beijing – for his capital. But this did not spell the end for Qara Qorum. It remained an important city within the empire, and enjoyed the patronage of the Mongol Yuan-dynasty ruling in China. After that house fell in 1368, Qara Qorum was buffeted by wars between vying Mongol factions. In 1586, urban activity at the site was revived by the foundation of the Buddhist monastery Erdene Zuu, which went on to become one of the most important spiritual centres of Outer Mongolia.

The status of both the Uyghurs' Ordu Baliq and the Mongols' Qara Qorum as focal points for far-flung political, economic, and cultural relationships forged by medieval nomadic empires makes them intriguing objects of study. Like many modern cities, they were melting pots where people with different

BELOW A schematic overview of the citadel buildings, showing the key elements revealed during our excavations.

Chinese princess to the Uyghur Khagan's court has survived in the Tang dynastic history:

When we got to the barbarian court, we selected an auspicious day to give the princess her appointment as Uyghur qatun [queen]. The qağan first ascended his tower and sat facing the east. [...] she mounted a sedan chair with a curved screen. Nine ministers carried the chair to the right around the court nine times. When she got down from the chair, she ascended the tower and sat with the qağan facing east.

Both accounts give the impression of a lively city, which was not only a place of trade and craft production, but also a diplomatic and royal centre.

After Ordu Baliq fell to the Qirghiz, it would be almost 400 years before another major urban centre emerged in the Orkhon valley. In 1206, Genghis Khan became Great Khan of the aspiring Mongol Empire. After his death, this

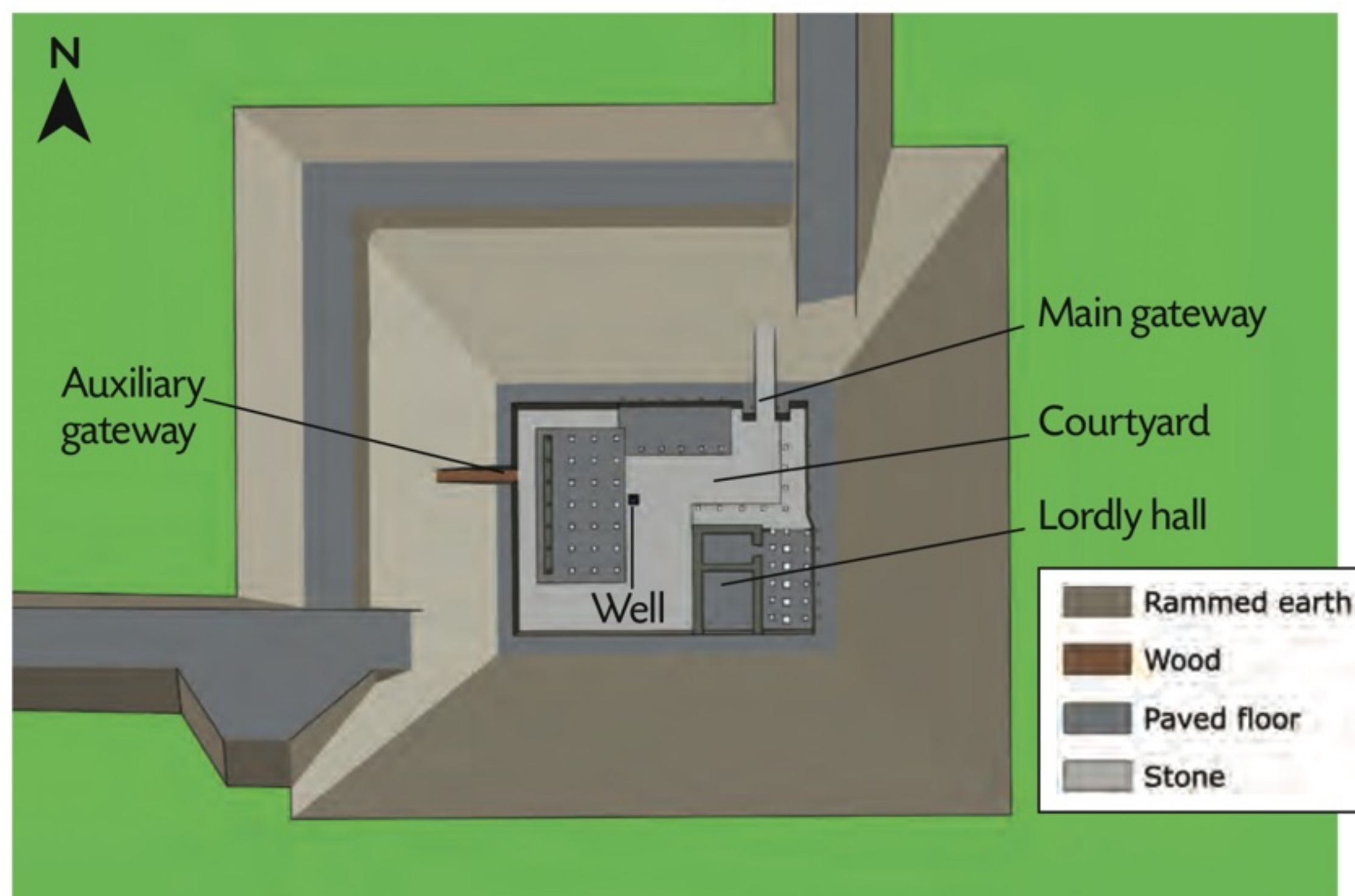


IMAGE: based on an airborne laser-scan by ArcTiron and photogrammetric surveys by Archaeocopter



ABOVE Excavations on the courtyard in front of the lordly hall, at the south-eastern corner of the citadel. Fine stone plinths provided a base for wooden columns supporting an upper storey (**RIGHT**). At the top left of this photo, a wall made of rammed earth and (now carbonised) wooden posts can be seen. The section visible at the top right shows the huge quantity of debris that collapsed into the building.

origins, religions, beliefs, and cultures met and exchanged goods and ideas. Since 2000, Mongolian and German researchers (Mongolian Academy of Sciences, National University of Mongolia, and the German Archaeological Institute) have cooperated to explore the archaeology and history of these Orkhon valley sites. Our expeditions have been rewarded with a wealth of information about the architecture, urban planning, and material culture of these ancient metropolises.

Inside Ordu Baliq

The most immediately impressive feature of the former Uyghur capital at Ordu Baliq is its size. Using airborne LiDAR and small drones, we have built up a digital terrain model of the city's 44km² extent. This approach has captured eroded quarters of the city that are otherwise invisible to the eye with the clarity of a city map. Our model reveals a metropolis with densely built-up areas, roads, and walls, as well as large walled enclosures containing only a handful of structures, or none at all.

Taken together, the layout of the urban area sketches out a crescent, facing eastwards. The focal point of the crescent is occupied by a temple and palace district (labelled HB 2 on the plan). Unlike the remainder of the ruins, its walls still

stand up to 12m high. These trace out a rectangular compound 420m long and 330m wide, containing a large rammed-earth structure at the centre, which resembles a Buddhist stupa. In front of it lie two large mounds, indicating the position of a presumed temple complex. A prominent mound also rises from the south-eastern corner of the enclosure, elevating its platform above the height of the outer walls and earning it the name 'citadel'.

A second enwalled complex (HB 1 on the plan) lies immediately to the south. There, a large courtyard contains a central building facing east, and the scattered fragments of a stele bearing a trilingual inscription. Combining Chinese, Turkic runic, and Sogdian scripts ensured that as many onlookers as possible could take note of the formidable military deeds accomplished by the eighth Uyghur

ruler and his predecessors. The text also commemorates the conversion of the Uyghurs to the Manichaean religion, and illuminates the close ties they enjoyed not only with China, but also with the Central Asian Sogdians: an Iranian people who were important players in Silk Road trade. The Sogdians achieved considerable influence at the Uyghur court, too, by providing a reliable source of counsellors and ministers.

South-west of HB 2 lies a large, densely built-up quarter (HB 3), set within an enclosure wall. Artefacts recovered during surface-surveys indicate the presence of various craftsmen, including artisans processing silk. ➤

BELOW A small auxiliary gateway allowed access to the citadel from the western rampart. On the right side of the photograph, the wood-paved gateway is visible, while the so-called 'stupa' lies in the background.





LEFT A central well within the citadel was lined in places with a hexagonal stone casing. Numerous interesting finds were discovered within it, including this perfectly preserved bronze bell (**ABOVE**) bearing Chinese characters.

In recent years, our research has focused on HB 2: the temple and palace complex. The large mounds in front of the stupa were partially excavated in 2010 and 2011. While the eastern mound was seemingly crowned with a paved platform, the western one contained the remains of a temple. Its eastern façade consisted of nine wooden columns, supported by stone plinths ornamented with carved lotus flowers. While such decorative devices resemble Chinese Tang dynasty architecture, the use of nine columns defies Chinese models. As we learn from the description of the royal wedding quoted above, though, the number nine played an important role in the Uyghurs' high-ranking political rituals. It also symbolised the nine tribes of the Uyghur nation, suggesting that the number of temple columns is no coincidence.

Between 2013 and 2018, our expedition examined the citadel in the south-eastern corner of HB 2. This revealed an impressive high-status complex, which was accessed from the north, through a broad gateway topped by a small gate-tower. Beyond lay a paved courtyard, over which soared a multistorey, donjon-like tower. Its walls were made of rammed earth, but the side facing the courtyard featured a light, wooden façade, perhaps decorated with latticework in the Chinese style. Behind the façade lay a fine example of a lordly

hall. Massive, finely worked plinths bore the wooden columns supporting an upper floor. The former size of the building can be estimated from our team having to dig through layers of debris up to 4m high before reaching the ground floor. These debris-layers contained remains of the roof and its decoration, including tile finials displaying a lotus-flower pattern or clay masks, depicting mythical creatures. Both resemble Tang-period Chinese roof decoration. The debris also bore traces of a fire so intense that some roof tiles had vitrified. This destruction was probably the handiwork of the Qirghiz, when they sacked the city in 840.

A single row of columns ran along the northern and eastern edges of the courtyard, indicating the presence of a walkway. Another building stood on

a slightly elevated platform along the western side of the citadel's courtyard. This once again appears to have been in the Chinese architectural tradition. Behind it, a second, smaller gate provided access to the citadel via the western rampart.

Portal to paradise?

The team discovered a deep pit directly in front of the western building. An initial test-excavation produced several

BELOW Fragments of stone strips featuring Chinese calligraphy were found in the well. These are known as 'Jade Books' and were a feature of important ceremonies conducted by Chinese emperors. Their presence at Ordu Baliq emphasises the close relationship with the Chinese imperial court.





LEFT The site of the Mongol city of Qara Qorum. The square enclosure marks the area of the Erdene Zuu monastery. In the foreground, the remains of the medieval city are visible as crop marks.

of seal derived from the symbols with which herds were branded. The *tamga* on this vessel belongs to Moyanchuo, the second ruler of the Uyghur Empire, and founder of Ordu Baliq. This artefact indicates that the citadel was established at the beginning of the city's life.

While the well contained traces of the city's earliest days, so too were its death throes evident. Fragments of building decoration and furniture ended up in the well, alongside a large, gilded iron padlock, which would have locked a magnificent gate. Two carved wooden poles, polished with black lacquer, may once have supported a tent, while marble lion figurines decorated balustrades. A cast-bronze bell found at the bottom of the well would have originally been hung at the corner of a roof. The bell is decorated with cloud patterns and bears an inscription in Chinese letters, saying 'six melodies, eight songs may reach the tenth heaven'. The bell was perfectly preserved and still issues a clear, euphonic sound when struck.

Another interesting group of artefacts are fragments of so-called 'Jade Books'. These are strips of stone, neatly flattened, polished, and inscribed with Chinese calligraphy.

The carved letters were then gilded. Originally, several of these strips were bound together by gold wire, thereby resembling a traditional Chinese bamboo scroll. Such precious stone scrolls were used by the Chinese emperors during important rituals. The presence of such pieces in Ordu Baliq underlines once again the close ties between the Uyghur rulers and the Chinese imperial court. They also support our interpretation of the citadel as a place of pre-eminent political importance, perhaps even the Uyghur ruler's palace.

The Qirghiz rampage ensured that Ordu Baliq's moment in the sun did not even last a century. It was apparently permanently abandoned after 840, after which the only traces of activity ▶

interesting finds, including the skeleton of a gyrfalcon, a bird that is native to arctic regions and so was far from home. Both its exotic nature and traces of a healed wing-fracture indicate that the bird was kept for falconry. Obviously, it was a highly valued possession, which was deposited in the pit after its death, along with a large ceramic vessel. The bones date to the 11th century, and so testify to the citadel being reused long after its destruction, perhaps as a place to communicate with the world of the dead. Over subsequent years, the team dug deeper and deeper into the pit, and eventually encountered the remains of a well, which had been sunk before the citadel was built. The well featured a wooden chamber where groundwater collected. Above this chamber, the well-shaft was lined with stones set in hexagonal layers, creating a casing that continued up to the ancient surface. Once this was finished, the citadel-builders installed successive segments of a wooden well-casing as they raised the artificial mound.

The well contained plenty of artefacts from the citadel buildings. Waterlogged conditions ensured

excellent preservation of organic materials like wood. At the bottom of the well, we recovered several pottery vessels, many of them still intact. One of the vessels, despite displaying common geometrical decorations, carried a carved *tamga*, a kind

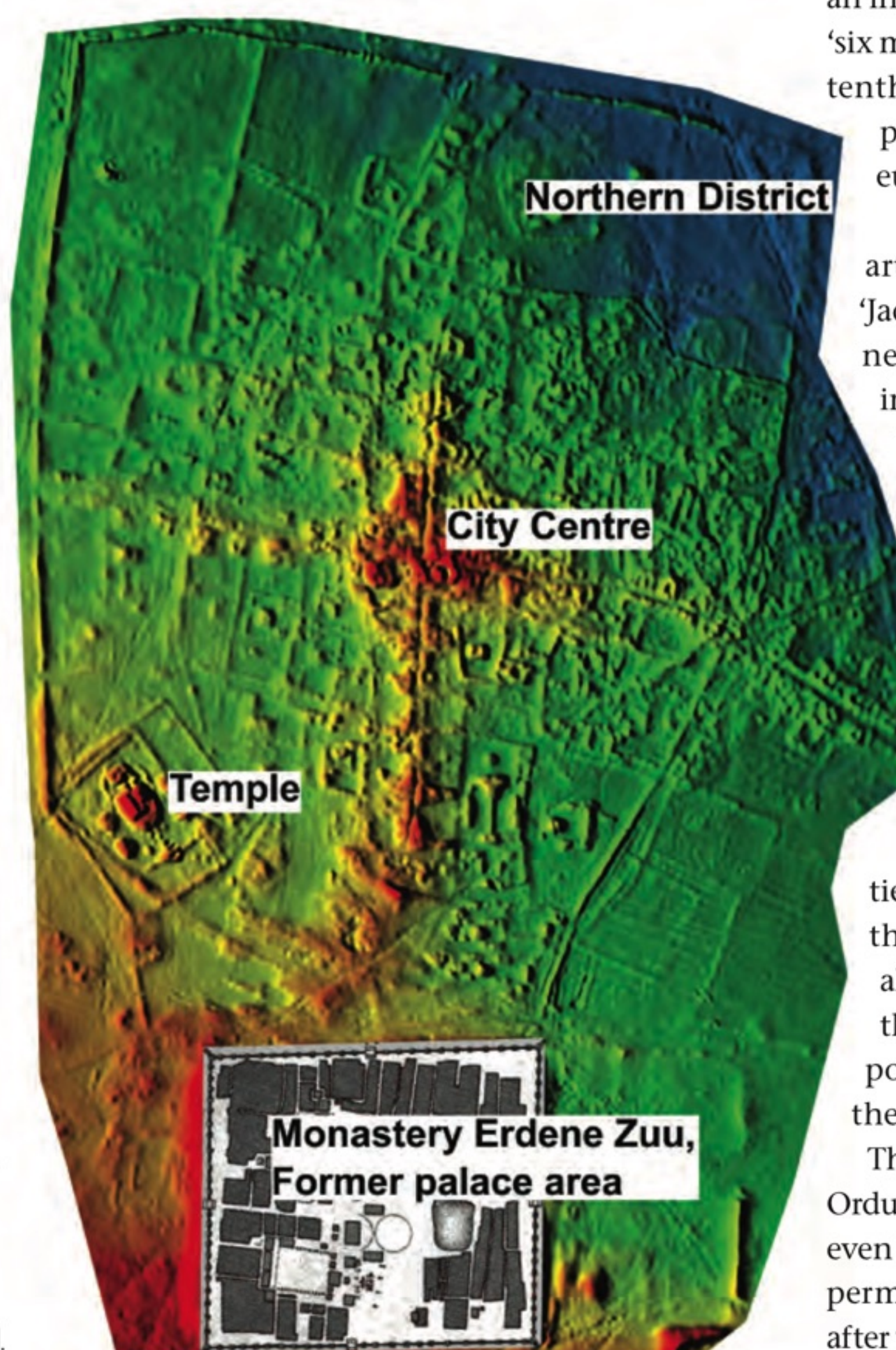


IMAGE based on a site survey by the University of Applied Sciences, Karlsruhe

RIGHT A digital elevation model of Qara Qorum, showing traces of the streets and buildings within the former Mongol capital.



LEFT Excavations under way on the great Buddhist temple discovered at Qara Qorum. This monumental complex could be taken as symbolic of the Mongols' desire to rule over both the nomadic and sedentary worlds.

are some isolated burials within its ruins, and offerings like ceramic vessels and the aforementioned gyrfalcon. A Mongol-period chronicle reveals that, in the medieval period, they called the ruins Ma'u Baligh, or 'the Bad City'. This may suggest it was seen as a domain of the dead. As we have seen, the only partially filled shaft of the ancient well could have been perceived as a gateway to another world. Layers of charcoal and burnt bones indicate ritual offerings took place in the ruins time and time again.

Court of the Khans

When the Mongols seized the sacred lands around the Orkhon valley, almost 400 years after Ordu Baliq perished, they were fully aware of region's symbolic and political importance. This was what would furnish the Mongols with the legitimacy to rule over the people of the steppes, and so they founded their capital some 30km south of Ordu Baliq. According to the Persian chronicler Juvaini, the Mongols even undertook some digging in its ruins, uncovering an inscription tablet and – tantalisingly – a well.

We are much better informed about the new Mongol capital of Qara Qorum from written sources. Because it lay at the heart of such a vast empire, many visitors set down their impressions. There are accounts from Persian, Chinese, Arab, Armenian, and European chroniclers, which provide a taste of life in the

Mongol capital. The most detailed report was penned by the Franciscan Friar William of Rubruck, who travelled to Qara Qorum from western Europe. He describes a walled city that was divided into three quarters: a district for Chinese craftsmen, a Muslim trade district, and the administrative district for the court scribes. The Khan's palace lay next to the mud-brick city wall. Friar William also mentions 12 'temples of the idolaters', two mosques, and a Christian church. This alone demonstrates the cosmopolitan character of the Mongol capital.

Our archaeological investigations in and around Qara Qorum have focused on three areas: the city centre, a sizable building complex at the south-eastern corner of the city wall, and a smaller complex in the northern portion of the town.

Investigations in the city centre have yielded traces of numerous crafts and trades, including the activities of goldsmiths. Excavations in the north part of the city, meanwhile, revealed an interesting building. It is orientated west-east and contained a fragment of a bronze cross, suggesting a connection to the Church of the East. Could this even be the site of the Christian church mentioned by Rubruck? If so, the remains of pagan sacrificial rituals – hundreds of bovine horn cores, chopped up and deposited in the same building – would testify to how religious practices became entangled in the melting pot of Qara Qorum.

Some believed that the large complex beside the city wall was the Khan's palace, but our excavations have debunked this theory. It now seems likely that the palace was situated in the area currently occupied by the Erdene Zuu monastery. The mysterious building occupying the south-western corner of the city was instead a monumental Buddhist temple, which served as a kind of state sanctuary. Indeed, this complex may have been intended to symbolise the claim of universal rulership bestowed on those who controlled the nomads' sacred heartlands. If so, translating this claim into the language of monumental architecture must have sent a shiver down the spine of the Mongols' sedentary subjects and neighbours. Here was a statement of their desire to rule over the nomadic and sedentary worlds alike. This ambition was destined to change the course of world history, by bringing east and west into closer contact than ever before, and paving the way for our own age of globalisation. ■

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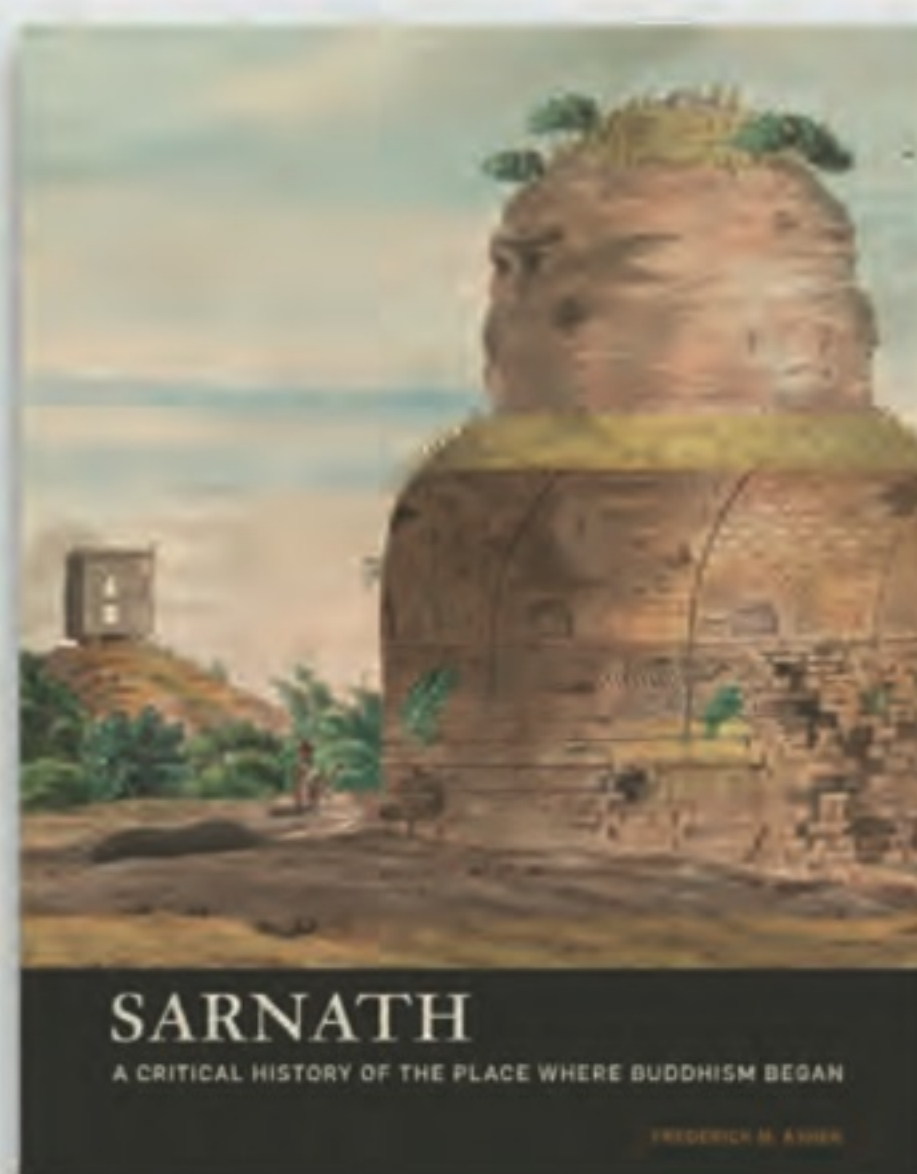


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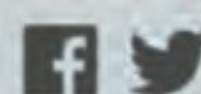
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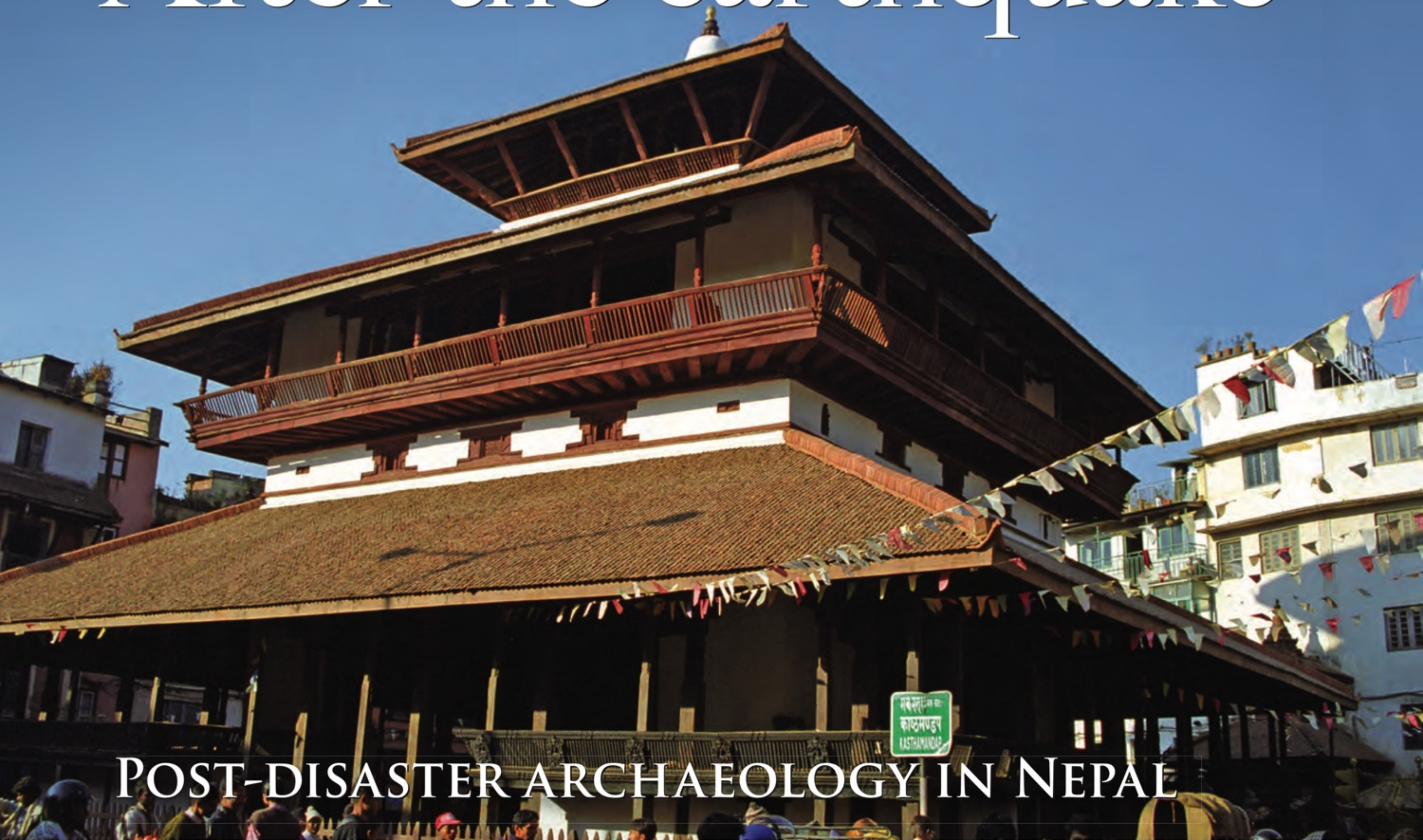
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After the earthquake



POST-DISASTER ARCHAEOLOGY IN NEPAL

Natural disasters can take a terrible toll: loss of life is all too likely, and ancient buildings often prove acutely vulnerable. The damage inflicted by overly hasty attempts to reconstruct stricken monuments is less well appreciated. **Robin Coningham** and **Kosh Prasad Acharya** describe the knowledge gleaned from post-disaster archaeology in Kathmandu.

The Kathmandu valley, nestling in the foothills of the Himalayas, is studded with medieval monuments. Palaces, Buddhist stupas, Hindu temples, and public squares still form part of the everyday fabric of three cities inhabited by a million people. These exceptional architectural treasures are inscribed on UNESCO's list of World Heritage Sites, but the valley's skyline changed in an instant on 25 April 2015, when the Gorkha Earthquake struck. This humanitarian disaster, which caused 9,000 fatalities, was also a cultural catastrophe that damaged over 400 historic structures across the valley's core monument zones. Emergency services joined the public to

clear the streets, while the government and international agencies mobilised bulldozers, JCBs, and thousands of trucks to remove tons of mixed historic and modern debris.

After tackling the initial emergency, attention turned towards reconstructing collapsed and damaged heritage sites. These monuments are not only significant historic and artistic achievements, but also living sites bound together with their local communities, as well as an important source of income through international tourism. This significance led to plans for rapid reconstruction underpinned by bilateral agreements with foreign donors. Few of the resulting restorations, though, sought to understand the weaknesses that

ABOVE The Kasthamandap in the Kathmandu valley. Built as a rest house at an intersection of important trade routes, this magnificent structure went on to play an important role in royal coronations, before collapsing in the 2015 Gorkha Earthquake.

RIGHT The Kasthamandap following the Gorkha Earthquake. JCBs can be seen clearing debris from the site, during the initial emergency phase.

caused monuments to collapse in the first place, or to use archaeological evidence to discover how medieval builders had handled the risk of earthquakes. A focus on recreating monumental superstructures, often with modern materials, not only threatened their authenticity, but also frequently featured the removal of historic foundations and other traces of earlier activity. While the

PHOTO: Dreamstime/Attila Jandi

earthquake wrought immense damage, rushed reconstruction efforts have cumulatively caused a second, even larger cultural catastrophe: the destruction of Kathmandu's buried heritage.

From earthquake to excavation

In response to this loss, the Department of Archaeology (Government of Nepal) and UNESCO mobilised a team of archaeologists, geoarchaeologists, and architects from Durham University's UNESCO Chair on Archaeological Ethics and Practice in Cultural Heritage, ICOMOS (Nepal), and the University of Stirling. Collectively, we completed two seasons of post-disaster archaeological investigations across the UNESCO World Heritage Site in 2015 and 2016, using funding from UNESCO, National Geographic, and AHRC-GCRF.

Our rescue excavations at key sites in Kathmandu have provided deeper and more complex biographies for many monuments. Prior to our investigations, attempts to reconstruct the city's past had relied on art historical and architectural studies, combined with historic inscriptions, texts, legends, and

traditions. Thanks to our programme of scientific dating, we have discovered that the origins of some major monuments lie much further in the past than previously thought, changing our understanding of how Kathmandu developed.

One example is the Kasthamandap – Kathmandu's eponymous monument – a three-storey pagoda constructed as a rest house at an intersection of major trade routes through the valley. Like many of Kathmandu's monuments, its function diversified over time to include a later shrine dedicated to the yogi Gorakhnath, as well as playing a major role in royal coronations in the 20th century AD. The origins of this impressive structure have inspired many myths, but the building was generally thought to date to the 12th century AD. Thanks to our work, we now know that its origins lie in the early 8th century AD.

Excavations at the Kasthamandap produced another surprise, by revealing just how effectively traditional design had aided the seismic stability of the monument. We found that most of the damage to its foundations was caused by post-earthquake clear-up operations, including the use of heavy machinery to



strip away debris. The actual foundations themselves were so strong and resilient that we did not detect any earthquake damage to them. Mud mortar between the bricks gave the structure flexibility, while our new scientific dates suggest that the Kasthamandap foundations had survived earthquakes every 100 years or so for well over a millennium. It was a similar situation at many other monuments we investigated: strong and thoughtfully laid foundations bore little evidence of seismic damage.

Given the foundations were so resilient, one of the major questions facing us was why these historic structures had collapsed. At the Kasthamandap, we discovered that one of the saddlestones, which ought to hold the main timber columns of the building superstructure, was missing. Four should have been present at the corners of the monument's main shrine, but the north-eastern saddlestone was absent. Our excavations revealed that a wooden tenon, which once locked into the joint of the saddlestone, had been broken during mid 20th-century conservation; it was not replaced. Instead, some new tiled paving was pushed underneath the bottom of the timber column, removing the critical and flexible joint uniting the foundations and superstructure. This was a major factor contributing to the collapse of the monument during the 2015 earthquake.

Our work also revealed that the medieval architects had not just relied on carefully engineered foundations to ensure the monument's longevity. Excavations demonstrated that the Kasthamandap's foundations were laid out in a grid-pattern of nine cells. This pattern sketched out a mandala, a sacred ▶

PHOTO: Kai Weise



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LEFT Our investigations revealed the value of undertaking archaeological work on damaged structures. Here, researchers are recording the plan of the Kasthamandap, following clearing.

enabled debris to be cleared quickly, but also spatially. After gridding out the remains of the Guraju Sattal, rubble was systematically removed from defined squares and placed into a replicated grid near the site. This allowed the find-spots of artefacts and personal effects to be recorded, creating a source of information that could be valuable during the initial emergency phase and later

reconstruction efforts. In an actual disaster, such an approach would allow the rapid removal of material, as well as aid locating missing persons, and permit building materials and artefacts to be salvaged for future conservation or even reuse. This is critical, as key elements were lost after the 2015 earthquake, once they became mixed with modern debris and were dumped. Historic bricks that could have been recycled were simply thrown away, slowing reconstruction efforts and creating unnecessary financial and environmental costs, as new bricks needed to be fired.

geometric configuration that physically and symbolically represented the cosmos to ensure good fortune. Within each of the sockets of the four main saddlestones, we encountered circular gold-foil discs stamped with further mandala designs, testifying to the cosmological protection afforded to these monuments during their construction.

For the future

While we had identified causes of collapse, and the damage inflicted by unrecorded post-earthquake interventions in the past, we also needed to use the lessons learned during our work to look forward, as Nepal is located in one of the world's most seismically active regions.

Our first step was in 2016 co-designing a live-training debris-clearing exercise, which took place at the Pashupati Temple complex. This striking place of worship beside the Bagmati River is believed to be one of the oldest Hindu complexes in Kathmandu. Although the Gorkha Earthquake spared the major monuments within the temple precinct, others collapsed. This included an 18th-century AD rest house for travelling sadhus (or holy men), known as the Guraju Sattal, close to the western entrance to the complex.

The exercise was achieved with support from the Pashupati Area Development Trust, alongside heritage professionals and first responders from the police and army. Here, in a safe environment, the participants developed an approach that

While our earlier work emphasised archaeology, funding from the British Academy's Cities & Infrastructure programme allowed us to adopt a broader scope through the collaboration of colleagues from the Universities of Newcastle, Bradford, and Tribhuvan. By bringing on board geotechnical and structural engineers, 3D visualisation experts, and local community groups, we were able to combine the study of heritage in three major spheres for the first time in Kathmandu: (1) natural soil profiles, (2) buried heritage and foundations, as well as (3) standing heritage.

To understand the local soil conditions supporting the foundations of historic monuments, we drilled into the deep natural sediments of the Kathmandu valley and took core samples. Excavations undertaken in advance resulted in us recording more of Kathmandu's buried heritage, while Ground-Penetrating Radar survey revealed even more, demonstrating that many open squares and palace courtyards within the Kathmandu valley seal earlier phases of historic development. This discovery means that these remains can be protected during spells of intrusive development, such as the re-laying of

BELOW In 2016, we set a live-training exercise in the Pashupati Temple complex. Soldiers and police are clearing debris from the remains of a rest house for travelling holy men.



PHOTOS: UNESCO Chair Durham

pipes and services that were fractured during the earthquake. Using the results of this archaeological and architectural investigation allowed structural and geotechnical engineers to model the effect of the earthquake, which in turn helped the 3D visualisation experts to recreate the profiles of lost buildings, some of which had never been provided with accurate elevation drawings.

Throughout this work, we ensured the wider public had opportunities to learn about our work. We also enhanced community engagement through the co-design and development of a temporary exhibition in a new site museum, which was opened by the President of Nepal on the third anniversary of the Gorkha Earthquake. This bilingual exhibition, 'Resilience within the Rubble', highlighted the threats to Kathmandu's historic infrastructure, while celebrating the seismic adaptations of Nepal's vernacular architecture and engineering, illustrating the strength of traditional design, alongside innovative methods and approaches to investigating and aiding seismic safety.

Next steps

Our project focused on bridging the gap between archaeology and modern architectural and engineering approaches, alongside traditional knowledge of local master craftspeople and artisans. More tangibly, our new



ABOVE Ground-Penetrating Radar survey at sites such as the Durbar Square revealed valuable details about the extent of its buried heritage.

research and findings are contributing directly to the reconstruction of the Kasthamandap, and this iconic building is now in the process of being rebuilt. The Kasthamandap has become the exemplar, a case-study for how interdisciplinary study and community engagement can lead to successful and meaningful authentic restoration of Kathmandu's historic buildings. Further work is, though, required to continue to broaden the scope of our work to influence

BELOW Monks, nuns, and laity joining together at the Saptabidhanotta Puja and prayer ceremony, to reanimate the Kasthamandap.

policies and procedures in the face of future disasters across south Asia. Rajesh Shakya, Member of the Provincial Assembly of Nepal's new Province 3 and chair of the reconstruction committee, was clear about the impact of the archaeological contributions:

The Kasthamandap has proved the importance of archaeological and scientific studies, especially for those cases where history and culture are embedded below the surface... Furthermore, the investigation indicated the probable reasons behind the collapse of the Kasthamandap. It was clear that the lack of timely maintenance as well as improper interventions in the past was instrumental in the collapse of the Kasthamandap. The Kasthamandap is but the tip of the iceberg. There are numerous monuments and sites in Nepal awaiting proper archaeological studies that could uncover great information about their past.

There may be nothing that we can do to prevent disasters like the Gorkha Earthquake, but our work has shown a way forwards for restoring damaged structures, and discovering some of their secrets in the process. ▣

ACKNOWLEDGEMENTS

The project is supported by funding from AHRC-GCRF and the British Academy's Cities & Infrastructure research programme.



PHOTOS: UNESCO Chair Durham

The Dead Sea Scrolls

CONSERVING ONE OF THE WORLD'S GREATEST MANUSCRIPT COLLECTIONS

The Dead Sea Scrolls are widely considered one of the greatest archaeological discoveries in modern times. Penned 2,000 years ago, the scrolls are the oldest written record of biblical texts ever discovered. How has this great collection, hidden for so many years in Judea's solitary desert caves, survived?

Abigail VanderHart reveals the past, present, and future of the Dead Sea Scrolls.

Nearly 75 years ago, in the heart of Bethlehem, two bedouin shepherds walked into Kando's cobbler's shop with four rolls of parchment in hand. Jum'a and Muhammed ed-Dib had found the scrolls in a cave near the Dead Sea, stored inside tall ceramic jars. Unaware of their discovery's true value, Jum'a and Muhammed sold the parchments to Kando, who was both a cobbler and an antiquities dealer. If the parchment had no historic value, at least Kando could use it as leather for cobbling. Thankfully, Kando saw the potential significance of the scrolls, and did not use them to repair shoes. Although he could not read the

letters on the parchment, they resembled ancient Syriac writing Kando had seen in Bethlehem's Orthodox Church. This prompted him to offer the scrolls to Archbishop Samuel, who purchased them for 24 Palestine pounds – about \$100 at the time.

Meanwhile, Professor E L Sukenik from the Hebrew University heard rumours about scrolls discovered near the Dead Sea from an Armenian friend. Intent on investigating the discovery, Sukenik and his friend met on opposite sides of the militarised border separating West and East Jerusalem. Peering through the barbed wire, Sukenik examined the sample fragment his friend brought. Sukenik was convinced that the scrolls were authentic,

and the pair travelled through the military zones to Bethlehem. On 29 November 1947, the very same day the United Nations voted in favour of establishing a State of Israel, Sukenik purchased three scrolls from an antiquities dealer in Bethlehem.

Sukenik also learned about Archbishop Samuel's four scrolls, which had been taken to St Mark's Monastery in Jerusalem. By February 1948, however, Archbishop Samuel's assistant at St Mark had recognised the value of the manuscripts. He made inquiries at the American School of Oriental Research (ASOR), which is today the W F Albright Institute of Archaeological Research. After several communications, Professor

ALL IMAGES: Shai Halevi, courtesy of the Israel Antiquities Authority, unless otherwise stated

PHOTO: Nayib Albina



LEFT The first examples of the texts now collectively known as the Dead Sea Scrolls were found in the 1940s. We now know that they were hidden during the 1st century AD in tall jars within numerous caves, including this one at Qumran.

ABOVE An early attempt at conservation. Here we see a scroll bearing the psalms unrolled on a work surface.

William F Albright confirmed that the manuscripts were authentic 2,000-year-old writings. With the War of Independence looming on the horizon, ASOR advised Samuel to take the scrolls abroad for safekeeping. It was not until 1 June 1954, when the scrolls appeared for sale through an advertisement in *The Wall Street Journal*, that they were purchased for the State of Israel. At last, the original seven scrolls were reunited.

Discoveries throughout the 1950s and '60s revealed scrolls hidden along the Dead Sea's western shore, as far north as Wadi Daliyeh and southward to Masada. The earliest discoveries, however, were

made within 11 caves near Khirbet Qumran, an archaeological site close to the Dead Sea's north-west shore. Scholars generally agree that Qumran was home to a Jewish sectarian community that observed strict laws of purity. The site was at its zenith during the end of the 1st century BC and beginning of the 1st century AD, about the same time many of the scrolls were written. Excavations at Qumran revealed more of the type of cylindrical jar the scrolls were stored in, inkwells, and possibly a 'scriptorium' where the scrolls were written. These discoveries, together with the scrolls' proximity to the site, led scholars to conclude the documents belonged to the Qumran community.

This being so, why were the scrolls found in inaccessible caves rather than at Qumran? One theory suggests the scrolls were hidden for safekeeping. The Romans razed Qumran in AD 68, during the Great Revolt. Perhaps

the inhabitants anticipated the coming destruction and hid their precious texts in the surrounding caves, where they remained untouched for centuries.

In total, the 'Dead Sea Scrolls', as they began to be called, are a collection of approximately 1,000 manuscripts, preserved in over 25,000 fragments. The texts include unique sectarian writings, as well as every book of the Hebrew Bible except Esther. They were written between 250 BC and AD 68: centuries that were pivotal in the history of both Judaism and Christianity. The scrolls pre-date all other known biblical writings by at least 1,000 years, and are considered by many to be the most significant archaeological discovery of the 20th century.

From caves to conservation

The arid climate of the Judean Desert preserved the scrolls for some 2,000 years. When the scrolls were removed from the caves and brought to Jerusalem, a change in elevation of about 1,200m, the light exposure and more-humid climate accelerated the scrolls' deterioration.

The scrolls suffered further damage after their discovery, due to unintentional improper handling. Scholars pieced the fragments together using adhesive tape. They also moistened the parchment and flattened it loosely between plates of window glass. Sadly, this treatment accelerated deterioration rather than preventing it. The pressure of the glass and aging of the adhesives made the

BELOW Modern conservation treatment. Here we see a fragment being carefully cleaned (**LEFT**), and a plate being opened to access the scroll within (**RIGHT**).





ABOVE The interest in the Dead Sea Scrolls makes them a popular component of exhibitions. This example is being prepared to go on show. Each appearance of three months is followed by a five-year 'rest'.

parchment darken and become extremely brittle. In the 1960s and '70s, about 400 plates of scroll fragments were removed from their glass frames in an attempt to undo this damage. Unfortunately, the methods used to remove the adhesive tape and strengthen the parchment resulted in even more damage.

When the Israel Antiquities Authority (IAA) was established in 1990, one of its first projects was to preserve the scrolls. Recognising the severity of the situation, the IAA built a climate-controlled conservation lab and appointed four full-time conservators to treat the scrolls.

BELOW A fragment of Deuteronomy, as seen by the naked eye (**LEFT**), and after undergoing infrared imaging at the IAA scroll lab (**RIGHT**). It clearly demonstrates how hi-tech methods can make writing visible once more.

They worked with international experts to develop conservation treatments that could be reversed if necessary.

Today, the IAA adheres to a strict protocol for treating and preserving the scrolls. Work is still under way to undo the problems caused by earlier conservation treatments. The most time-consuming task requires removing the adhesive tape without causing further damage. The adhesive tape, found mostly on the back of the parchments, is usually removed mechanically with a heated scalpel. Since, in most cases, the aged adhesives penetrated the scroll fragments, mechanical removal alone is not sufficient. The full extraction of adhesives requires a chemical procedure, which may be repeated when necessary. Once the embedded adhesives have been extracted, tears, cracks, and edges are reinforced from the back. The IAA estimates that roughly another 20 years are needed to treat the entire collection, but the conservation process never really ends.

The scrolls must be regularly monitored and revisited for maintenance.

After treatment, scroll fragments are arranged on acid-free cardboard, attached with hinges of Japanese tissue paper and safely stored in the IAA's climate-controlled vault. For optimal preservation, a temperature of 20°C and relative humidity of 48% are maintained where the scrolls are worked with or stored. The IAA is currently building a new facility, the Lunder Family Dead Sea Scrolls Conservation and Preservation Laboratory. It will be dedicated solely to the conservation and preservation of the Dead Sea Scrolls. At this new lab, visitors will have the opportunity to observe the painstaking efforts of IAA conservators as they treat these priceless texts.

Unsurprisingly, there is worldwide interest in viewing the Dead Sea Scrolls. When travelling to a new exhibition, the scrolls are carefully prepared in a capsule specifically designed to ensure that climate-conditions remain stable during transportation and display. The IAA also ensures the receiving venue follows strict protocols to regulate climate and light exposure. For display, the fragments are sewn between two layers of polyester net, stretched in acid-free mounts. These are then enclosed in a frame of polycarbonate plates. To further protect the manuscripts, the IAA rotates the scrolls that are being exhibited. After three months on display, a scroll must 'rest' in its climate-controlled home for a period of five years before travelling or being displayed again.

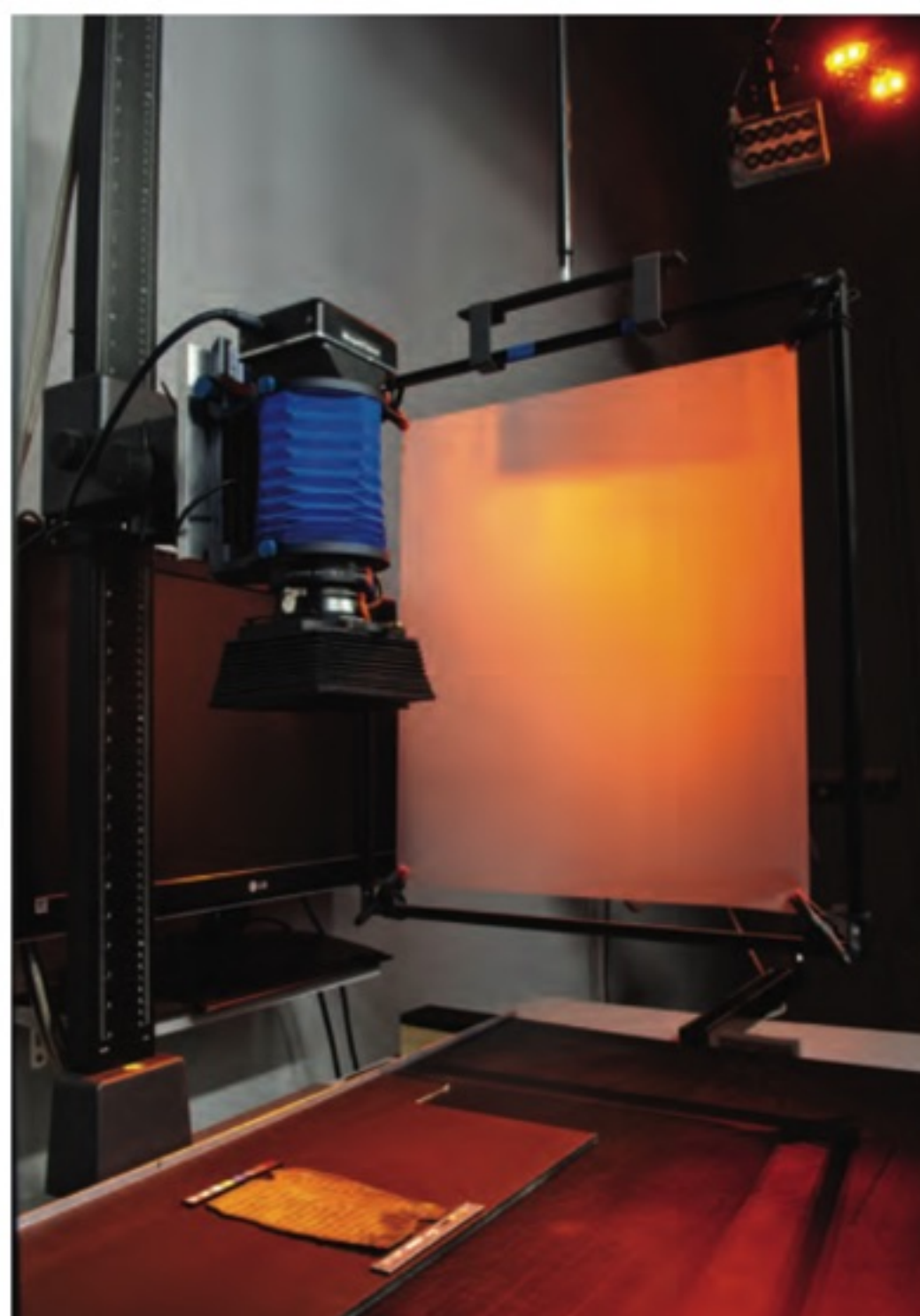


Inevitable aging

Although the IAA's meticulous care has dramatically slowed the scrolls' deterioration, the aging of these 2,000-year-old texts cannot be stopped entirely. As such, preserving the Dead Sea Scrolls has to mean more than just addressing their physical deterioration. In 1990, when the IAA was established, they nominated an advisory committee and collaborated with scholars worldwide to facilitate the scrolls' publication, which began in the 1950s. In 2010, the 40-volume publication was completed, a product of over 100 scholars' combined efforts. Thanks to modern technology, it is now possible to study and record the scrolls in greater detail than ever before.

Using the most advanced imaging technology available, the IAA photographs and maps even the most minuscule fragments of parchment and papyri, digitally preserving them for future generations. These images, together with descriptions of the manuscripts, are openly available to the public on the Leon Levy Dead Sea Scrolls Digital Library (www.deadseascrolls.org.il). The digital library also includes scans of photographs taken soon after the scrolls' discovery, and is an indispensable tool for Dead Sea Scrolls research. Eventually, transcriptions and translations of the texts will be added to the library.

In addition to creating a comprehensive record of the collection, the IAA's



ABOVE A Dead Sea Scroll is prepared for recording using a multispectral imaging system. This cutting-edge technology can reveal valuable new details about the documents.

digitisation project allows researchers to decipher darkened, otherwise illegible fragments. With a designated imaging system that uses technology developed by NASA, each of the thousands of fragments is photographed in 28 exposures and 12 different wavelengths. Seven of the wavelengths are in the visible spectrum, and five are in the near-infrared spectrum. The multispectral, high-resolution images capture detail otherwise invisible to the human eye. This high-tech approach chalked up a notable success in 2018, when writing became apparent on a completely darkened and illegible fragment. Researchers believe the

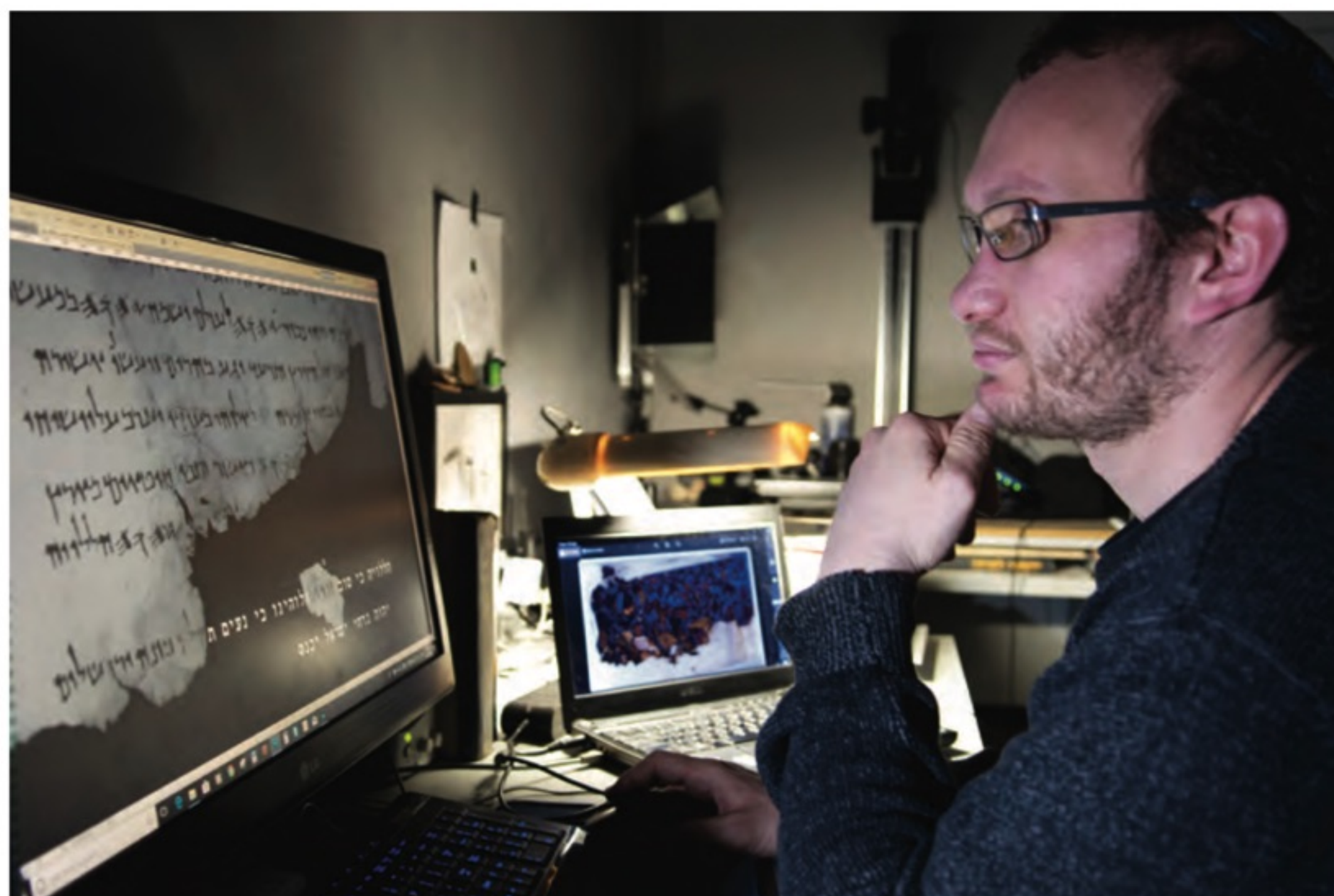
fragment is part of the Great Psalms Scroll (11Q5), one of the largest and best-preserved manuscripts in the collection.

Adopt a scroll

The treatment, conservation, and preservation of the Dead Sea Scrolls has advanced dramatically through the years. Nonetheless, many scrolls are still in desperate need of thorough treatment. The IAA's conservation procedures are systematic and effective, but also lengthy and expensive. Each scroll requires unique treatment depending on the nature and extent of the damage it has suffered. Removing the adhesive tape and residue requires hours of work by a highly trained conservator. In addition, the tools and resources necessary to properly preserve the scrolls do not come without cost. Despite these challenges, the IAA is determined to preserve these precious texts for future generations. The Dead Sea Scrolls enrich our knowledge of ancient life, as well as the origins of Judaism and Christianity. They represent a cultural heritage that influences and belongs to each of us. The responsibility to protect these ancient treasures, therefore, is shared across the globe.

In light of this, and in recognition of the tenth anniversary of the IAA's Dead Sea Scrolls unit, the Friends of the IAA are calling on the public to help them to protect one of the world's greatest manuscript collections. Through the 'Adopt a Scroll' programme, donors can support a scroll's conservation and prevent ongoing deterioration. Sponsorship can be made in one's own name or in memory of another. To each sponsor, the IAA offers a photographic reproduction of the scroll with a dedication plaque bearing the donor's name. By adopting a scroll, you contribute directly to the preservation of one of the greatest archaeological discoveries of all time.

To become part of the collection's incredible story, please contact the Friends of the Israel Antiquities Authority at info@friendsofIAA.org. ▣



LEFT Oren Ableman, scroll researcher at the Dead Sea Scrolls unit of the IAA, examines how newly legible ink traces on a fragment may fit into the text of the Great Psalms Scroll.



Richard Hodges is President of the American University of Rome.

A HOUSE PARTY ON CORFU

Beyond the tip of the headland and a swift-flowing mile and a half of sea, the forbidden shore of Albania sprang up; the sierras of Epirus indented the eastern sky. Silent except from birds, this leaf-fringed legend was the very scenery of Prospero's island and A Midsummer Night's Dream.

Patrick Leigh Fermor writing about Kanonas

I was lucky enough to be first invited to Kanonas 25 years ago. Arriving by speedboat on a balmy July night, I followed the steep path up through the dark Corfiot olive grove to the discreet and magical house commanding the promontory. The silence was precious

ABOVE When Odysseus was washed up on Phaeacia, we are told, he received assistance from Nausicaa, daughter of King Alcinous and Queen Arete. Back in the 1940s, the Greek artist Nikos Hadjikyriakos-Ghika ('Ghika') planned to commemorate their meeting with a pair of bronze sculptures, but for one reason or another it never happened. Now his vision has been brought to fruition, and here we see his Nausicaa, overlooking the Straits of Corfu.

save for the incessant drumming of cicadas. Everything about the house was extraordinary: the mercurial view of the Straits of Corfu, with the Epirote mountains far beyond; walls carpeted with paintings and sketches by Grand Tourists of the Ionian islands, which conveyed the spirit of a deeper past, even though





LEFT Approaching Kanonas: the house is perched on a Corfu promontory, and was also the work of Ghika. It is reached via a steep but picturesque path that leads through an olive grove.

the house itself was built in 1969. Here lingers the old Corfu that the Durrells knew, enchantingly concealed from the rapacious destruction for tourism of much of this ravishing coast.

The house was conceived by the Greek artist, Nikos Hadjikyriakos-Ghika, always known as Ghika. His house in Hydra had tragically been burned down. His wife Barbara and his stepson Lord (Jacob) Rothschild acquired the property in Corfu where, with Ghika, they created the house that one can see today. Jacob is the architect of the excavations at Butrint, immediately across the Straits of Corfu, and a lifelong polymath with passions for archaeology, the arts, history, and people. To mark the 50th anniversary of Kanonas, in keeping with Jacob's infinite creativity, he decided to realise one of Ghika's unfinished projects.

In 1948, Ghika made two small maquettes of Odysseus and Nausicaa, and wrote to the Greek prime minister, Giorgios Rallis, proposing to enlarge them 'to a height of three and a half metres' to be mounted overlooking the Straits to remind travellers that the Ithacan captain found safety and succour at Mouse Island (part of fabled Phaeacia), just south of Corfu's airport, before setting out on the last leg of his odyssey to rejoin his wife and son. What the Prime Minister thought is not known, but the project came to nothing until Jacob put together a team to make it happen. This August, I was privileged to return to Kanonas for a house party to celebrate the unveiling of the monumental statues, made in a Thebes foundry. Seventy years after their conception, Ghika's two models have been transformed into mighty figures.

The occasion was worthy of a film. Jacob and his grandchildren performed the honours, revealing the two sculptures as we listened to a Corfiot operatic ensemble perform Monteverdi's *Il Ritorno d'Ulisse in Patria*. Beyond, across the Straits of Corfu, my eyes were drawn to the hinterland of Butrint. There lies another world.

Victorian traveller the Reverend Tozer regarded Butrint as the limits of Asia. Certainly, nowhere could be more different than over-built Corfu. The distant, mammoth-ribbed mountains are devoid of life. Seen from our festivities, these might as well be

the mountains of the moon. Miraculously frozen in time, this landscape appeared blessed, shaped by the reddish benediction of sunset. In the failing light, I could pick out Çuka e Aitoit, thought to be ancient Kestrine, at the east end of the Pavllas river that, until Communist times, reached to Butrint itself. Peering past Nausicaa, my eyes were drawn to the low cliffs of Cape Stillo, rugged in low relief. Truth be told, this was a house party for all the senses: joyous, thanks to the mixture of music and sculptures brought to life, and then the sweeping views of places resonant with history and myths from my digging days in Albania.

Cape Stillo

From Kanonas, Albania seems much as Edward Lear found it when he sailed to Butrint in 1857. The landscape is bare, dotted with occasional villages little more than specks. This is intentional: here is a national park, created in January 2000 by the Albanian government, that provides a natural lung not just for Albanians, but also for the millions of tourists packed into Corfu's seashore resorts. This wasn't always the plan. When we ▶

BELOW The statue of Odysseus is unveiled. Lord Rothschild stands to the right.





first arrived at Butrint in 1994, projects were being shaped to build an airport and a medley of resorts in this valley. In time, this concrete intrusion was forsaken. Instead, the Homeric setting for the UNESCO World Heritage Site at Butrint has steadily gained in appreciation, leaving all memory of the tourist development to a forgotten moment of madness. Now there are bold plans to take the Butrint project further. One idea is to enlarge the park to embrace much of the Pavllas valley and Albania's rugged, southern finger: Cape Stillo.

Lawrence Durrell recounts a legend connecting Corfu and the Cape in his lyrical memoir, *Prospero's Cell*. A fisherman told him about two lovers during the Ottoman occupation. He was an Albanian Muslim and she was a Greek. He had been banished from Corfu and she was kept captive on the coast. Before he left, they agreed to signal each other by lighting fires

on the second Sunday of every month – he on the rocky tip of Cape Stillo, she at Govino on the island. For three years, they maintained this messaging born of love. Then the girl died. The fire on Cape Stillo, however, burned at the appointed time. With no response, the Albanian lover knew something serious was amiss, so he crossed to Corfu, and was caught and executed. Yet, Durrell recounts, on the second Sunday of the month a fire burns for a few hours: 'sometimes it shows a greenish flame.'

Not much has altered on this treeless massif of denuded knolls since Durrell took his sailing boat in the 1930s across the Straits. Given its apparent anonymity, its history is worth relating.

Cape Stillo is today the south-westernmost point of Albania, a place largely unknown to most Albanians as a result of a decision taken a century ago. After the Greek army conquered this area, defeating the Ottoman Empire in March 1913, it was assumed that all southern Albania would be ceded to Greece at the Treaty of London. Earl Grey, the British Foreign Secretary and chairman of the Great Powers, went so far as to propose this. The Italians reacted angrily. Under no circumstances could Greece control both sides of the Straits of Corfu. If this happened, so the Italian delegation portentously informed Grey, Italy would bomb Vlora (at that time, the Albanian capital) and Saranda (then the Greek minority capital). Grey sought a diplomatic compromise. Cape Stillo, along with Korça (in south-eastern Albania), would be ceded to Albania while, in their place, Greece would gain some Aegean islands. After six months of wrangling, Grey got his way and Cape Stillo is one of the two places named in the making of the new Republic of Albania in August 1913.



ABOVE The Bridge over the River Pavllas. Lying close to the border, the Pavllas river has attracted undesirable attention from various quarters over the decades. Italian tanks attacked here in 1940, while in the 1990s it provided an illicit backdoor into the EU.

RIGHT A magical landscape: Edward Lear travelled to Cape Stillo in 1857 and captured this view of Butrint (**ABOVE RIGHT**); the scene he painted is still recognisable today.





ABOVE Another Troy? Today, Kalivo occupies a promontory jutting into Lake Butrint. It was here that Dionysius of Halicarnassos believed the Trojans camped before founding Butrint. The outer wall at Kalivo remains impressive – seen here (**LEFT**) providing seating for Luigi Morricone c.1930 – but what went on inside remains something of a mystery.

For 25 years or so, little happened to this corner of the new republic. Then a moment of madness occurred, given material presence as a scar running diagonally from the Pavllas river across the steep northern face of the promontory. In late 1940, Italian military engineers cut a trench through a cleft in the rock here to provide a path for tanks to ascend the Cape in a crocodile procession. From there, they furtively descended on the unsuspecting Greeks on the coastline to the south. The ensuing war, over four calamitous years, by one twist of fate and another left Albania in the grip of the dictator Enver Hoxha. Hoxha promptly sealed the republic's frontiers, proclaiming that his country was a paradise on earth. Preoccupied by the porous nature of this southern boundary, refugee Greek villagers, victims of the bitter Greek civil war in 1947-1949, were settled by Hoxha in the Pavllas valley as sentries. The real frontier lay nearly 20km to the north, where, at a checkpoint, anyone passing to ancient Butrint and the Pavllas valley had to show their papers. Through such serendipity, Cape Stillo lay deserted, a no-man's land.

With the introduction in 1992 of Albanian democracy, the old frontiers dissolved. The erstwhile tank track, needless to say, presented a golden opportunity to slip into Greece as the Italian army had once done. In the 1990s, a daily convoy of mules took Albanian milk up the track to some spot near Sagiada (an abandoned Venetian saltern just inside the Greek frontier) where, for pennies, it gained fraudulent EU sanction. Fish, too, caught using dynamite rather than nets, was from time to time carted in panniers along this discreet route, as was less wholesome merchandise.

I came to know this aberrant finger of Albania well. Reached by a footbridge over the Pavllas river – an unforgettable Heath Robinson contraption of cannibalised iron and wood – we homed in on a rocky outcrop, with a blissful view high up, known as Shën Koll. Here we discovered a spread of Late Bronze Age sherds, close to an intriguing if underwhelming walled enclosure. The excavation lasted two seasons, everyone involved being captivated as much as anything by the blue where the Ionian seaways meet the sky. From Shën Koll, the land falls off to the north, providing unsuspected vistas to Butrint as well as the coves and villages of Corfu. It is no wonder that the irrepressible Edward Lear ventured here to paint in 1857.

Lear's painting depicts Butrint as a lost oasis in an empty lagoonal landscape. But the valley includes two other great sites, both well worth visiting: Kalivo and Çuka e Aitoit.

Kalivo

Kalivo lies like an upturned whale a half-hour walk from Butrint at the south end of Lake Butrint. Çuka e Aitoit, on the other hand, dominates the distant terminus of the Pavllas valley, a cone of a hill rather like a giant Norman motte merging into a wall of mountains, the highest of which is Mount Mile.

Kalivo is a wonderful enigma, begging for further archaeological investigations. It is about an hour's glorious walk from the chain-ferry at Butrint. In the company of kingfishers, you follow the Vivari channel past Butrint (on the opposite bank) and then scramble onto the unfortified flank of this fortress. In spring and autumn, the treeless encampment brightly sparkles with orchids. From here, the view north ➤

BELOW The distinctive conical eminence of Çuka e Aitoit. The settlement at its summit is girded by formidable fortifications (**INSET**), and became wealthy during the Hellenistic period, before apparently being abruptly abandoned in the Roman era.



takes in Lake Butrint and the drained lands that lie below the Chaonian tribal capital of Phoinike, a hilltop town that flourished until Butrint won status as a colony after Octavian's victory over Mark Antony and Cleopatra in 31 BC.

Kalivo was once a promontory extending into the wide embayment that in Roman times was massively reduced to become Lake Butrint. In the 1920s, Luigi Maria Ugolini, the Italian fascist archaeologist who found fame excavating Butrint, saw it through the eyes of the ancient author Dionysius of Halicarnassos, who thought it was where the exiled Trojans first camped before founding Butrint. Tantalisingly, they called it Troy.

Ugolini was not alone in being both fascinated and perplexed by this great site. Around the crown of Kalivo's east side is a powerful cyclopean wall, punctured by three simple gates. No wall appears to defend the steep slope on its western side. Surveys produced miserly amounts of Bronze Age, Hellenistic, and Roman sherds, as well as remains of a Vlach transhumant shepherd encampment. My trial excavations in 2004/2005 left me baffled. Nothing substantive came to light. What was Kalivo, and why the great polygonal walls on two sides?

Ugolini was convinced the polygonal walls were of Archaic Greek date, as much as he hankered after them being a Mycenaean legacy. Further survey after the Second World War by Albanian archaeologists led them to the same conclusion. But the interior is empty. No one has yet found any traces of any buildings. Why? This led me to believe it was for corralling cattle destined for export to Corfu by way of neighbouring Butrint. My good friend Dave Hernandez (University of Notre Dame), who has excavated the Archaic levels deep under the Roman forum at Butrint, cheerily disagrees. He speculates that it was intended for an army when the Corinthian colony at Corfu established Butrint as an Epirote emporium in the 6th and 5th centuries BC. He thinks the great Corfiote colony – the Manhattan of the Mediterranean world in the 6th and 5th centuries – would have built the fortress to check the Epirote tribes. The ancient sources, after all, record that the Corfiots had a substantial army in the Archaic and Classical periods.

I must admit that the picture Dave confects is compelling, given Dionysius of Halicarnassos's belief that it was a Trojan

encampment. We have debated our divergent interpretations over wine in Albania and, more often, by email. The truth is, of course, that only further excavations will resolve Kalivo's place in this fabled corner of the Ionian world. This said, the enduring enigma lends a special aura to this arcadian spot.

Çuka e Aitoit and Pan

Ten kilometres east of Butrint, strikingly visible from Kanonas as well as Kalivo, is the isolated conical mountain of Çuka e Aitoit. Legend has it that this was ancient Kestrine, named after the son of the Trojan exiles Andromache and Helenus (the mythic founders of Butrint). This story, as well as the extraordinary profile of the hill, made it irresistible to Luigi Maria Ugolini. Ignoring the technical challenges, Ugolini surveyed it with his Italian Archaeological Mission in the late 1920s, making an accurate map of the later Archaic and Hellenistic dwellings and the formidable fortifications. As at Kalivo, Ugolini resisted going any further. Not until the Albanian-Soviet mission of 1959 were excavations made here. Led by Vladimir Demitriovitch Blavatski and Hasan Ceka, the team traced the remains of over 40 stone dwellings and began the excavations and eventual dismantling of a so-called 'palace'.

The collaboration with the Soviets famously ended as a consequence of Enver Hoxha's machinations. Later, though, Selim Islami returned to re-excavate not only the palace and several dwellings, but also a small part of the cemetery. From the archived reports, the shadowy narrative of Kestrine emerges. It may well have had Archaic Greek origins. Possibly it was an Epirote outpost, positioned to resist colonisation by the Corinthians on Corfu, who maintained a beachhead emporium ▶



TOP The joint Soviet and Albanian team excavating at Cuka in 1959.

LEFT A wind-rose in the inner courtyard at Kanonas, which was given to Ghika, and painted by the travel writer Patrick Leigh Fermor.

RIGHT A statue of Pan, which was discovered during work on a military installation on Mount Mile.

at Butrint, as Dave Hernandez has brilliantly shown.

At its Hellenistic zenith, though, it was a border town for the Epirote tribe, the Thesprotians, who lived opposite Corfu. Before the Romans conquered these mountains in 167 BC, it stood full square against the neighbouring Chaonian tribe to the north, which was centred on Phoinike and the healing sanctuary at Butrint to the west. Selim Islami's excavations show that many of its fine ashlar buildings belong to this period, as Epirus first engaged with the Roman Mediterranean. Roman finds, though, are missing. The making of the colony at Butrint after the defeat of Cleopatra and Mark Antony led to the desertion of the pyramidal hill. Did the Romans force this issue, or did ancient Kestrine's citizens sense a superior quality of living on the coast, as so many Albanians did after the fall of Communism in the 1990s? Only further excavations will tell...

Çuka e Aitoit has long been associated with other mythic figures. In particular, a lithe bronze statue of Pan was thought to come from here. The statuette in many ways resembles a nimbler form of the Hollywood Oscar. Pan, Robert Graves reminds us in his *The Greek Myths*, is the only god who died. Plutarch reports how Thamus, a sailor in the time of Tiberius, bound for Italy (presumably up the Straits of Corfu) heard the news. A divine voice shouted across the sea: 'Thamus, are you there? When you reach Palodes, take care to proclaim that the great god Pan is dead!'

Intrigued by this myth, I set out to identify the location of Pan's sanctuary, which had housed the statuette. Locals told me that it was found during the excavations at Çuka e Aitoit, but by contractors working on a military installation at a point high on Mount Mile. Sadly, all has been destroyed. Yet from this sublime

spot, looking down on Butrint far below, a stone base came to mind, found in its forum and dedicated to the Great Pan by a Roman named Cassius. Apparently, he was an initiate of the mystery cult to the god. Another small base discovered by Ugolini bears the Greek inscription: Πάσαι / Κασία / νός – a dedication to Pasa, Pan's consort, by the same Cassius.

Plainly, one way or another, Pan belongs to Epirus. Certainly, from the celestial sanctuary on Mount Mile, it takes no imagination – gazing beyond Butrint, across the Straits that seem little more than a river from these heights, to the haven that is Kanonas – to hear the echo in the drifting breeze announcing the sad news of the god's demise.

When leaving Kanonas, and an immersion in a charmed world of Epirote myths and history, archaeological sites, and landscapes, I always pay homage to a wind-rose in the inner courtyard given to Ghika as a house gift 50 or so years ago. Baroque Venetian in tone, this compass depicts the winds (named in Greek and Latin) on a painted tabletop. While it tacitly conjures up Arthurian comradeship, the painting speaks to an eternal Mediterranean. The painter? The peerless travel writer Patrick Leigh Fermor, a great friend of Ghika. Twenty years ago, at another house party at Kanonas, I was lucky enough to meet him. I told him about Butrint and he responded by telling me about the chaps, his colleagues, who were parachuted into Albania during the Second World War. 'Wished I'd been there,' he mused. 'Looks magical from here.' ■

FURTHER READING

For more on Ghika and Kanonas, see Evita Arapoglou (ed.) *Ghika, Craxton, Leigh Fermor: charmed lives in Greece* (2017).

BELOW A majestic view over Butrint and the Straits of Corfu from Mount Mile.



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SARDINIAN SPLENDOURS

Lucia Marchini explores standout ancient sites in the north-west of the Mediterranean island.

In the middle of an open plain, a magnificent structure stands out against the blue sky, dominating the flat green fields that surround it. With a long ramp leading up to a tiered, truncated pyramid, this prehistoric monument has been likened to a Mesopotamian ziggurat; but this is not Iraq: we are in north-west Sardinia.

Despite their apparent similarities, there is no link between the Mesopotamian monuments and this contemporaneous Sardinian sanctuary site, Monte d'Accoddi, whose name stems from the archaic *kodi* meaning 'stones'. The elevation of the temple-altar has, however, been interpreted as a way of creating a meeting point between heaven and earth, just like ziggurats. A gentle climb up the ramp and steps today certainly raises the spirits.

Smaller than the Mesopotamian superstructure at, for instance, Ur, Monte d'Accoddi is still an impressive and evocative sight in the open landscape, and offers a chance to follow in the footsteps of Sardinia's prehistoric inhabitants. With its origins in the Ozieri culture of the Late Neolithic (3500-2900 BC), Monte

d'Accoddi was transformed over some 1,500 years of use, until it was abandoned in the Early Bronze Age around 1800 BC, and thereafter used only for the occasional burial.

Local residents in the early 20th century thought that the grown-over mound with some exposed stones was just another of the island's numerous Bronze Age nuraghi – circular stone towers, often surrounded by villages, and the signature structure of the Nuragic culture. In the Second World War, it saw action with a military post positioned on top, causing some damage to the underlying remains. Monte d'Accoddi is not unique in this regard, and it is easy to spot further traces of the war around Sardinia: for example, the concrete pillboxes that once trained machine-guns on some of the island's beautiful beaches.

A few years after the war, in 1952, the first excavations at Monte d'Accoddi started under Sardinian archaeologist Ercole Contu. They revealed that this small artificial mound was not a nuraghe, but a pyramidal sanctuary, which has since been partially reconstructed. A granite stele, found next to the monument, is carved with the image of a female deity, who may

have been revered at the sanctuary. Today, the original is in the Museo Sanna di Sassari, but a replica stands in the open air in its original spot.

The monument has a complex history, which is illustrated through a sequence of reconstruction drawings in the on-site office. An early Ozieri sanctuary was comprised of a group of huts and monuments, including a 4.5m-high menhir and an immense flat stone with seven holes that has been interpreted as an altar, with the holes perhaps used to restrain sacrificial victims. These now lie on either side of the ramp built later at the site, along with two other enigmatic stones from this early ceremonial complex: large egg-shaped boulders, one measuring 5m in circumference.

The ziggurat-like altar was built on top of this, in two phases. The first truncated pyramid was constructed at the end of the Ozieri period (c.3000-2800 BC), and crowned by a rectangular building, called the 'Red Temple' because it was painted in ochre. Later, the temple was buried beneath a mass of earth and stones, and around 2700 BC, towards the start of the Chalcolithic period, builders from the Abealzu-Filigosa culture enlarged the existing structure by making a terraced pyramid, perhaps originally 8m high. This had longer sides than its predecessor, and a 40m ramp. Animal remains excavated from the Chalcolithic levels indicate that sheep, cattle, and pigs were

LEFT Monte d'Accoddi served as a sanctuary for centuries between the Late Neolithic and the Early Bronze Age. Through successive rebuilds, it was transformed into a terraced, truncated pyramid, often compared to a ziggurat.

BELOW A street with a row of *tabernae* at the Roman town of Turris Libisonis.



sacrificed at the site, while other objects, like pots from the ruins of the surrounding village (now in the museum at Sassari), give a glimpse of ritual and domestic activity during Monte d'Accoddi's centuries of occupation.

To the sea

A short drive away, heading towards the coast, lies an altogether different site, the Roman town of Turris Libisonis at Porto Torres, today a major port in the north of Sardinia. The site's location in the Gulf of Asinara offers protection from the full force of the mistral, the wind that sweeps along the island's western coast, making it a desirable spot for a safe harbour. ➤





ABOVE The hill of Santu Pedru is home to a necropolis of chambered tombs, including the Tomba dei Vasi Tetrapodi, shown here.

Given the favourable location, the area was also occupied in prehistory. In the 1st century BC, a Roman *colonia* linked with Julius Caesar – Colonia Iulia Turris Libisonis – was founded. It flourished, thanks to maritime trade, and in the 2nd and 3rd centuries AD became the second biggest Roman town on Sardinia, after Caralis, now Cagliari, the island's capital.

It is a relatively small site, truncated by a 19th-century railway station that dissects the *colonia* with its tracks. Nevertheless, 3rd- and 4th-century bathhouses, together with a row of street-side *tabernae*, give a flavour of life in Roman Turris Libisonis. The highlight, though, is a suite of mosaics from a house excavated below the entrance to the central public baths. Called 'the Domus of Orpheus', after a mosaic that shows the mythical musician in a Phrygian cap playing the lyre and attracting the attention of animals, the house's overall layout and date remain unknown. Research is set to continue, though, and restoration work is currently under way on the house's frescoes. Another mythological mosaic, in the first room of the *domus*, shows a wedding between two gods, and in front of this is a small water feature, lined inside with a mosaic depicting a varied bounty of sea creatures, among them eel, tuna, red mullet, sole, mackerel, mussels, sea urchin, and crab, shown as if alive.

Dwellings for the dead

Elements of domestic design were used when burying the dead too. Close to Alghero's airport are two late Neolithic necropoleis, full of chambered tombs called *domus de janas*, 'houses of the fairies'. The first, the

necropolis of Santu Pedru, has ten tombs built into a picturesque rocky hill, which is capped by a partially collapsed nuraghe. One was repurposed in the 6th to 7th century AD to serve as a church, which, according to oral tradition, was dedicated to St Peter (giving the site its modern name) and St Lucy.

The burials were discovered by chance during construction work in 1959, and it was again Ercole Contu who carried out the first excavations on the Tomba dei Vasi Tetrapodi ('Tomb of the Tetrapod Vases'), so-called for the vessels found inside. Other objects excavated, including shells, ceramics, and metalwork, show that the tomb was in use from the Late Neolithic to the Early Bronze Age (c.3000-1500 BC).

A long corridor leads up to a small raised doorway (a bit of an awkward squeeze!), which opens up into the dark, spacious main chamber within. Around the walls are the openings for the smaller chambers where the bodies were placed. No fairies live here of course, but the tombs incorporated features from homes in their designs, such as false doors (which perhaps were thought to provide access to the realm of the dead, only not for the living), pillars, and false windows. Ochre is visible on parts of the walls, as are carved bull's horns.

Easier to access is the nearby necropolis of Anghelu Ruju, with its 38 rock-cut tombs, again in use from the Neolithic to the Early Bronze Age. Keep your eyes peeled as you walk around and you can see similar features too: bull's horns, false doors, and pillars. One tomb even has small bowls for offerings of food or drink carved into the rock of the steps leading to it, a poignant marker of the care people took to provide for and honour the residents of these sepulchral houses. ■

FURTHER INFORMATION

The closest airport is Alghero, run by Sogeaal (www.aeroportoalghero.it).

BELOW One of the T-shaped tombs at the necropolis of Anghelu Ruju.



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BELOW Selinunte, a major Greek colony on Sicily's south coast, is home to a number of temples whose metopes and pediments are on display in the recently refurbished Antonino Salinas Museum. Among the colony's temples is the 'temple of Hera' (temple E, shown here) in Selinunte's external eastern sanctuary.



The gods of Palermo: the Antonino Salinas Museum

Oliver Gilkes explores a recently refurbished Sicilian museum.

Sicily plays host to an unprecedented variety of archaeological sites and monuments, set in an extraordinary medley of landscapes. Combine this with Sicilian panache at cookery (very different from mainland Italy) and its wines, and a visit is a must for enthusiasts of Mediterranean archaeology.

Superb museums display the artefacts from centuries of excavations on the island. One of the greatest reopened in 2017 following a decade-long hiatus, during which the Antonino Salinas Museum in Palermo, named after the early 20th-century archaeologist and numismatist, was reconstructed. New galleries include important Phoenician finds from western Sicily and, above all, the wonderful metopes and pediments from the temples of Selinunte, a major Greek colony on the south coast.

Selinunte – ancient Selinus – had, among its forest of shrines, one of the largest temples in the Greek world. Destroyed by the Carthaginians in 409 BC, its rows of columns collapsed centuries later and were reconstructed over the course of the last 200 years. The temple decorations ended up across the island in Palermo in the revamped gallery – and what magnificent finds they are!

The metopes of a Greek temple were positioned up high in the frieze set between the triglyphs, those memories of ancient wooden buildings resembling the ends of beams with their three notches. They were carved, or painted, with appropriate schemes, setting out a visual programme of what a temple was all about.

In Palermo, there are metopes from three noteworthy shrines: on the acropolis of the city temple Y (none of the dedications are truly known), which has a wonderful series of Archaic images; nearby temple C, perhaps dedicated to Hercules; and temple E, from the great external eastern sanctuary, where there is some evidence that it was dedicated to Hera. All were begun in the 6th century, though 'Hera' was still being built a century later. Once they were brightly painted; today, we see naked stone sculptures.

BELOW Metopes from the appropriately named 'temple of the small metopes' (temple Y) at Selinunte, displayed in the museum. The scene showing Europa and the Bull is second from the left.



ALL IMAGES: O Gilkes

Sicilian sculptures

Three examples show them off. From temple Y, we have the unsuspecting Phoenician princess Europa being borne over the sea to Cyprus by the philandering Zeus in the form of a bull: an abduction that set in motion a whole swathe of 'Greek' myths.

From 'Hercules' comes a delightful scene of the demi-god with the Cercopes, the Smurf-like creatures who were captured after trying to steal his club. As they were carried off upside down, they had a good view of Hercules's naked backside and made appropriate comments. This made him laugh and, recovering his good humour, he released them.

While both of these are in the Archaic style, from 'Hera' we have a later sculpture of about 470 BC. Not yet quite Classical in form, it shows several elements that Sicilian sculptors were to excel in, such as the use of two stones – local limestone for the main image, and fine Greek marble for the flesh. Here we are witness at the marriage of Hera and Zeus. The god's sister, having fallen victim to her brother's lusts, binds him to her in marriage. Zeus greedily grabs her arm, simultaneously playing footsie, while Hera, dressed as an innocent bride, pulls aside her veil.

It is a superb collection, superbly displayed. There is a cornucopia of other material to be found behind the imposing façade of the ex-convent that houses them, past the ornamental fountain with its giant terrapins and into the cool of the courtyard and gallery. One room of Phoenician finds is dedicated to the memory of Khaled al-Asaad, the Syrian archaeologist who died refusing to give up the locations of Palmyra's treasures to ISIS. If in Palermo, do go along and pay tribute to heroes of the ancient world, and ours. ■



ABOVE Other metopes include scenes showing Hercules and the Cercopes (from temple C; **TOP**) and the marriage of Zeus and Hera (from temple E; **BOTTOM**).

LEFT The museum is housed in a former convent, complete with ornamental fountain (and giant terrapins) in its entrance courtyard.

FURTHER INFORMATION

ANTONINO SALINAS REGIONAL ARCHAEOLOGICAL MUSEUM

ADDRESS: Piazza Olivella 24, 90133 Palermo PA, Sicily

OPEN: 9am-6pm Tuesday-Saturday; 9am-1.30pm Sundays and holidays. Closed Mondays.

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For tickets, visit www.coopculture.it/heritage.cfm?id=251

From Stonehenge to Mycenae: the challenges of archaeological interpretation

John C Barrett and Michael J Boyd

Bloomsbury, £70

ISBN 978-1474291897

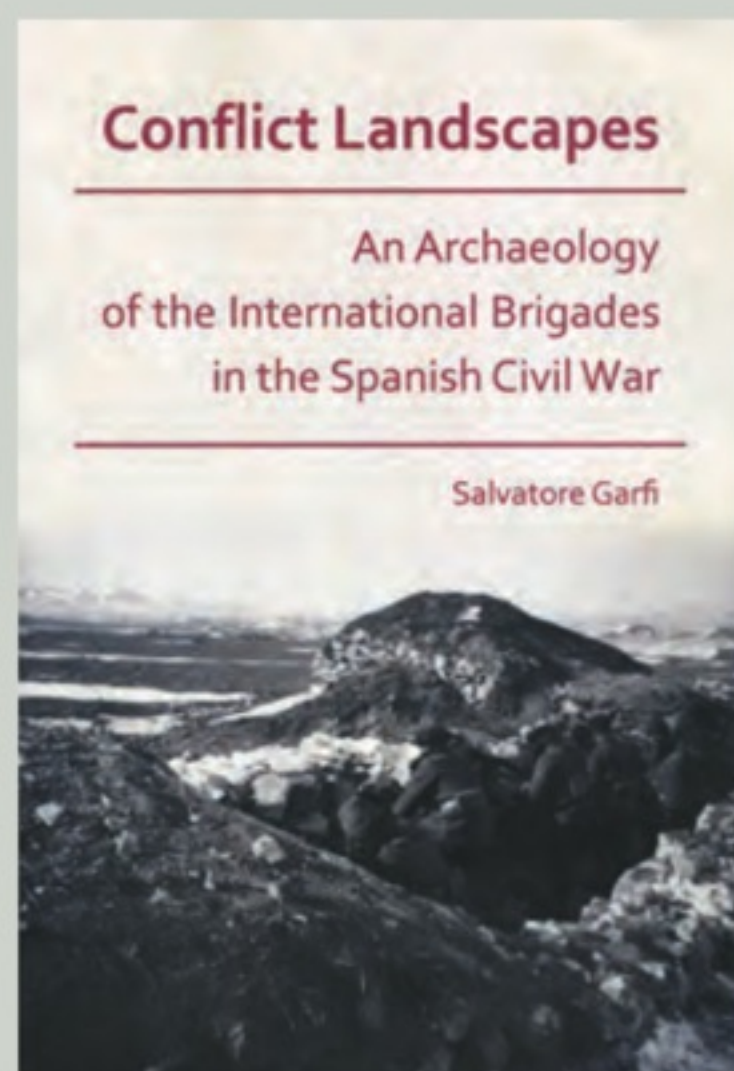
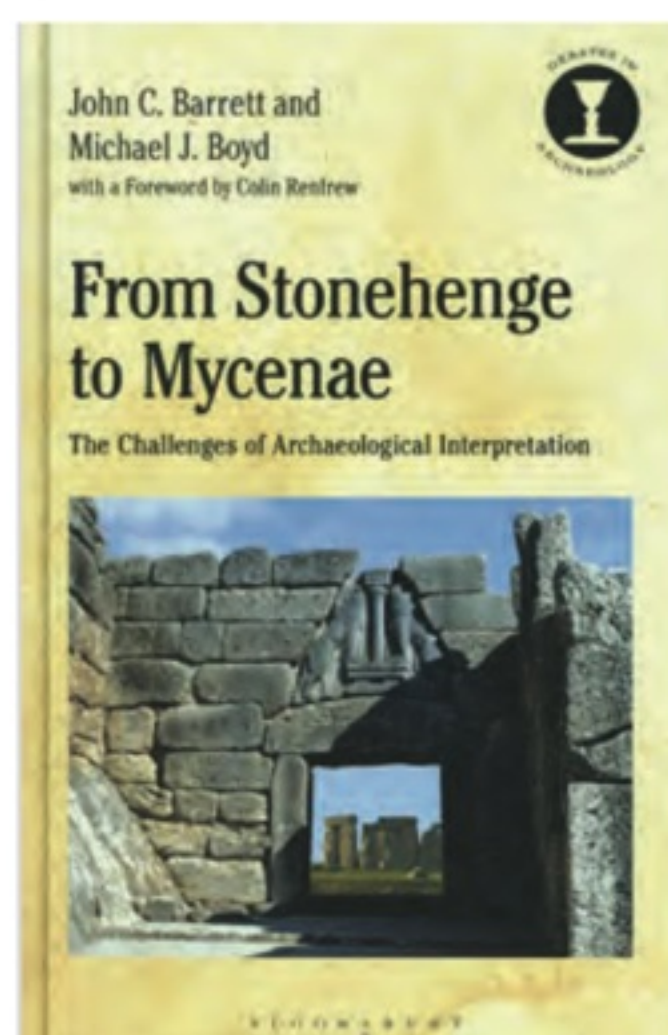
It can be hard to believe that Stonehenge was once seen as the brainchild of a Mycenaean architect. Before the advent of radiocarbon dating, what we now know to be a late Neolithic monument was assigned to the early Bronze Age, when it was thought local warrior-chieftains could muster the necessary muscle to realise the visitor's grand design. It was a model that depended on not only flawed dating, but also similarities: between the Stonehenge trilithons and Mycenae's lion gate, and Wessex burials and Mycenaean shaft graves. In an era when ideas were thought to diffuse gradually from east to west, it seemed only natural that the inspiration for Stonehenge would have accompanied them. Today, the intellectual landscape has shifted considerably – helped in no small part by Colin Renfrew, who provides a foreword to this volume – but debate about what can and cannot be achieved with archaeological

methods is still going strong. In this thoughtful book, John Barrett – emeritus professor at Sheffield – and Michael Boyd – senior research associate at Cambridge – explore what it is that archaeological material is really telling us.

Their journey from Stonehenge to Mycenae takes in areas as diverse as Orkney and Egypt, but focuses on various parts of Europe from the late 4th to late 2nd millennia BC. Such an impressive span in terms of both time and space is handled by separating the material into 'things that mattered', 'places that mattered', and 'bodies that mattered'. At its heart is a keen

curiosity concerning how change happens and what artefacts or remarkable structures like Stonehenge and Mycenae can tell us about individual and group identities. This comparative survey is conducted in a considered, scholarly fashion, combining a detailed knowledge of sites and finds with theoretical perspectives. Changing technologies and mobility are used to explore how artefacts and places shaped the lives lived alongside them. Varying access to places, technology, and resources made different sorts of identity possible. This refreshing, 'bottom-up' perspective promises to advance understanding of regions far beyond both Stonehenge and Mycenae.

MS



Conflict Landscapes: an archaeology of the International Brigades in the Spanish Civil War

Salvatore Garfi

Archaeopress, £35

ISBN 978-1789691344

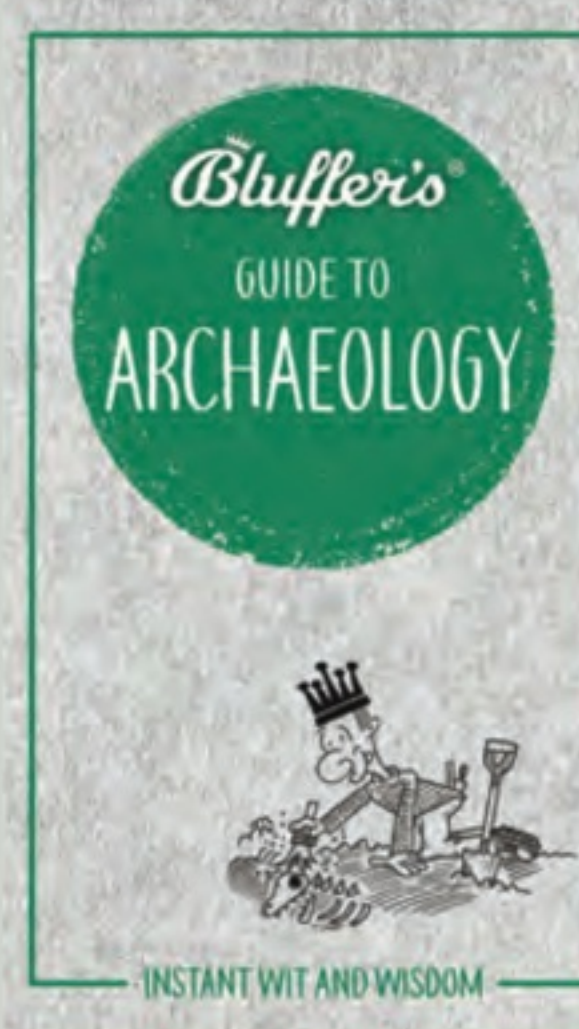
With the centenary of the First World War now over, people are more aware than ever of the horrors of industrialised warfare, and we are reminded of more recent acts of brutality. One such conflict

was the Spanish Civil War (1936-1939). According to some estimates, the war between Republicans (supported by the International Brigades) and Nationalists (supported by Nazi Germany and Mussolini's Italy, among others) claimed the lives of a million people.

Salvatore Garfi's book is one of the most-compelling accounts by far of a bloody 20th-century conflict. It provides the reader with an all-important historic context to the war, and records the archaeology associated with the trench positions of the International Brigades and Republican forces, where both civilians and combatants bore the brunt of the evils of civil war. Although conflict was dispersed across most of Spain (and Spanish Morocco), Garfi's research focuses on the International Brigade trench-lines south-east of Zaragoza, between 1937 and 1938.

The book is a graphic account of static warfare, which for some people is still within living memory. It brings to the forefront the personal horror of warfare, which is sometimes absent from publications that cover the First and Second World Wars. A must-read.

George Nash



Bluffer's Guide to Archaeology

Paul Bahn

Haynes Publishing, £6.99

ISBN 978-1785215865

At its heart, archaeology can be tremendous fun, but this is not always reflected in the discipline's literature. Not so the *Bluffer's Guide to Archaeology*. I first encountered it as an undergraduate, when the sly humour in Paul Bahn's frequently hilarious introduction to the subject proved a refreshing antidote to the

rather drier works populating our reading lists. Not only was the guide a joy to read, but it was also endlessly quotable. Over 20 years on, reading this updated and extended version brought the realisation that its contents are often as well observed – sometimes excruciatingly so – as they are amusing.

Bahn's tour of all things archaeological begins with an empowering rallying cry to those grappling with the subject: 'never let the fact that nothing is really known about past events stand in your way'. Thereafter, we contemplate who does what in the field, library, and lab; how poor site-hygiene can bolster belief in ancient curses; and why we are now living in the Irony Age. Bahn arms readers with arguments supporting both sides of contentious subjects, ensuring they can never be outfoxed in conversation. He's also even-handed with his digs, dishing the dirt in all directions to ensure no one is left spoiling for a fight. Anyone undertaking an archaeological degree or pursuing a career in ruins, should savour this joyous exposé of the subject.

MS

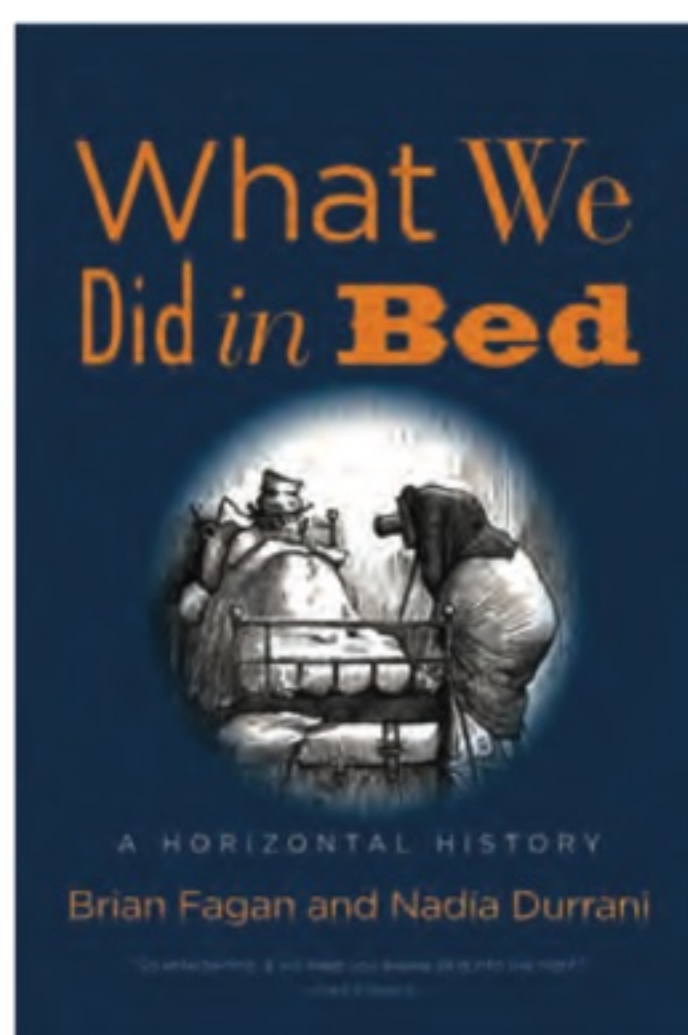
What We Did in Bed: a horizontal history

Brian Fagan and Nadia Durrani

Yale University Press, £20

ISBN 978-0300223880

It is easy to take beds for granted. In the modern Western world, they are typically tucked away from public view, offering a secluded spot for sleeping and other nocturnal pursuits. But it was not always so, as renowned archaeological writers Brian Fagan and Nadia Durrani (a former CWA editor) observe in this insightful and enjoyable romp through one of humanity's most beloved furnishings. By sidelining the bed, we not only draw a veil over the third or so of our lives spent in them, but also the remarkable way in which their role – both public and private – has evolved over the ages. In the early modern period, for example, beds were often placed proudly on display in the main room, to show off one of the most expensive purchases many families would ever make. In a worldwide survey that spans millions of years and takes in kings and commoners alike,

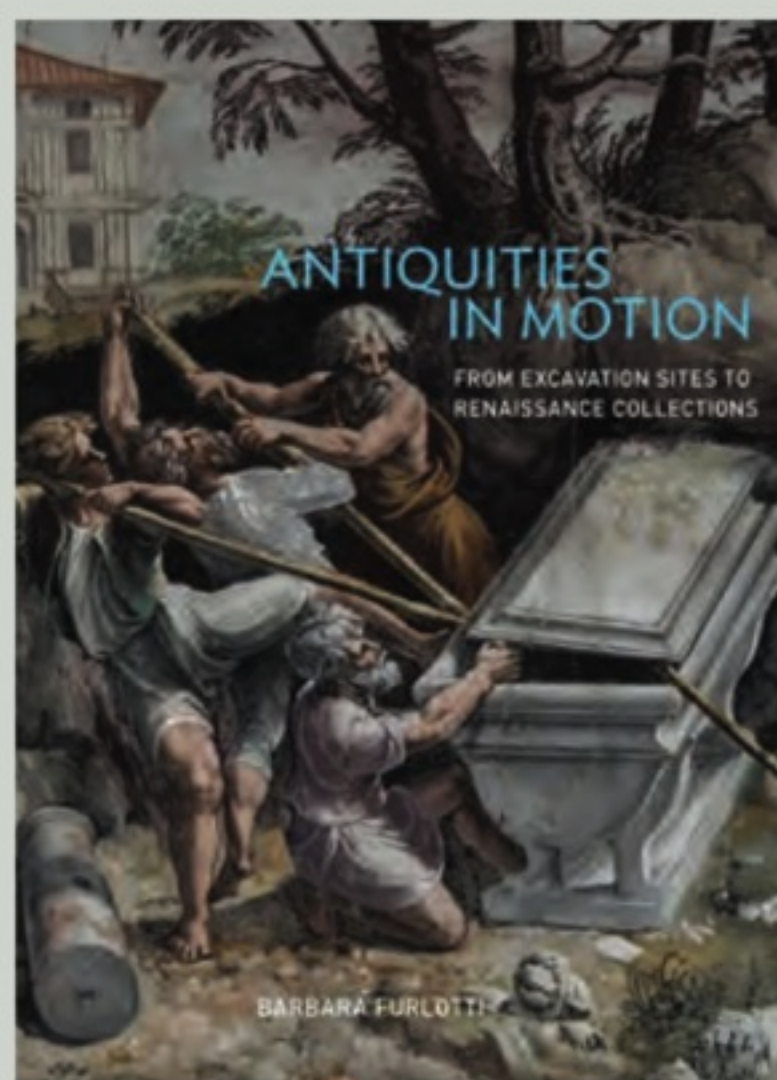


the authors demonstrate that 'our beds reveal who we are, how we live, and what we think – and always have'.

Today, Westerners generally associate beds with a raised and suitably plush platform. But this is some distance – quite literally – from the Proto-German root for the word, which evokes 'a resting place dug into the earth'. Appropriately enough, the earliest known surviving beds were dug into a rock shelter in South Africa and date to between 77,000 and 38,000 years ago. There, bedding of grasses, sedges, and rushes covered areas of around 3m², where people would eat as well as sleep. For millennia,

beds were communal areas where groups could sleep together on floors cushioned only with matting. While this might sound unbearably primitive to those reclining on a modern mattress, some studies indicate that sleeping on a hard surface can be the healthier option. Of course, beds also have a part to play in the creation of new life, not to mention the rituals associated with birth and death, and changing social views on such events can make for eye-opening reading. Anyone wishing to appreciate the pedigree of this unjustly overlooked item of furniture should dive between the covers of this volume to experience the ultimate bedtime story.

MS



Antiquities in Motion: from excavation sites to Renaissance collections

Barbara Furlotti

Getty Publications, £60

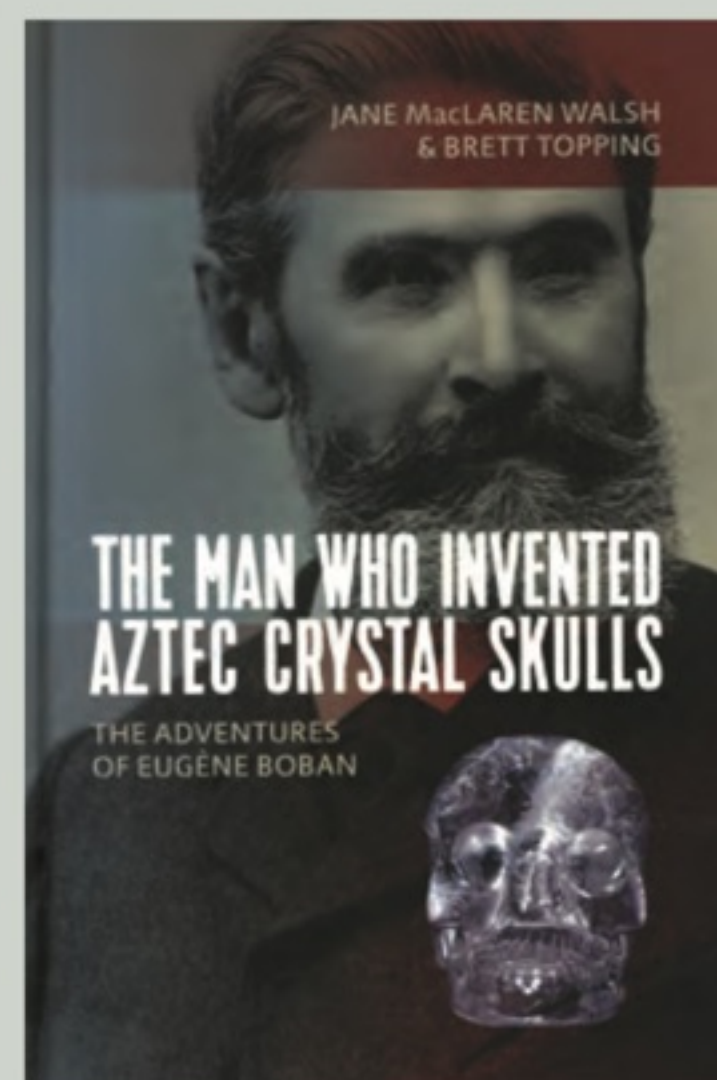
ISBN 978-1606065914

A number of celebrated sculptures from ancient Rome are known today by the names of prominent families who dominated Renaissance Italy. The Farnese Collection, for instance, once boasted the famous Farnese Bull and the Farnese Hercules, both now

part of the collection of the Museo Archeologico Nazionale di Napoli. Both were uncovered in the 16th century, when agricultural work, construction work, and excavations of varying legality in and around Rome unearthed many ancient artefacts.

In this well-illustrated book, Barbara Furlotti delves into a fascinating body of archival material to explore the roles of popes, peasants, pirates, antiquarians, artists, and others in the discovery, display, and restoration of Roman remains. As well as the occasional murder trial, Furlotti tells of nuns upset by a cardinal's excavation that damaged their monastery, and of various attempts to control and license excavations and exports, such as a decree that required a papal officer to survey a site before any work started. Yet, despite such regulations, some officials were happy to help friends and political allies break the rules. Providing important background to some of the most famous finds in 16th-century Rome, the book paints a detailed picture of the early modern city as a hotbed of discovery, deals, and deception.

LM



The Man who Invented Aztec Crystal Skulls: the adventures of Eugene Boban

**Jane MacLaren Walsh
and Brett Topping**

Berghahn Books, £99

ISBN 978-1789200959

In 1840, the explorer John Lloyd Stephens bought the Maya city of Copan for \$50, with the initial intention of shipping it to the United States. He was in the vanguard of the 19th-century rush to uncover and then remove pre-Hispanic

treasures to European and American museums that were desperate to build eye-catching collections, but quickly.

This is a well-illustrated, very easy-to-read book that wears its excellent scholarship lightly. Although there is some discussion of the ten or so rock-crystal skulls (probably fashioned from late medieval times to the mid 20th century), it concentrates on the man, placing Eugene Boban firmly within his historical context of revolution in both France and Mexico. The book is balanced, using original documents, and does him justice. Boban was both poacher and gamekeeper; a forger and collector; but he excavated widely in the Valley of Mexico and regarded himself (with some justification) as a (self-taught) learned scholar. But, above all, he was a seller in antiquities.

Although now only associated with the skulls (he confessed they were forgeries), Boban's work on a 600-page catalogue raisonné of Mexican pre-Colombian codices and manuscripts remains an important primary source.

This book is a treat.

Rob Ixer

BELOW Eye in the sky: images captured by drone can be analysed using a machine-learning algorithm to reduce the amount of work involved in surveying through fieldwalking.
RIGHT The image above has been captured by a drone, and the image below shows potsherds detected by the algorithm.



Automated archaeology

Fieldwalking, or pedestrian survey, is the most common technique for locating and monitoring archaeological sites. A group of archaeologists systematically walk a portion of the landscape (normally following parallel lines) and record all visible items of material culture, mainly pottery fragments or potsherds, although building material, lithics, glass, and metal are also frequent finds. Surveying this way usually requires a substantial investment of funds and/or time, but now researchers from the Landscape Archaeology Research Group at the Catalan Institute of Classical Archaeology in collaboration with the McDonald Institute for Archaeological Research at the University of Cambridge have developed a new method that can reduce the amount of work involved, while increasing the quality of the data generated by survey.

The new method consists of flying a pre-programmed drone at low altitude over the area of interest. The drone takes continuous pictures of the soil surface that are combined at a later stage to generate a single high-resolution image. This image is then used to train a machine-learning (a sub-discipline of artificial intelligence) algorithm to identify ceramic fragments in the image. Once the algorithm is trained, it can be applied to that image – and others – to detect, map, and extract all identified potsherds automatically.

Initial tests using the method have found it produces an increased detection rate and requires less time than standard pedestrian survey. It also provides results that can be compared between survey areas and teams, addressing a long-standing problem of archaeological survey. Data post-processing can help calculate the number of false positives and negatives, and provide exact measures of vegetation that can then be used to predict the presence of hidden potsherds. More importantly, instead of just working out potsherd density in an area, the new method maps each individual potsherd detected. This opens up new possibilities such as using the exact position, size, orientation, and shape of fragments to help determine the preservation of sites, their centres, and factors affecting dispersion.

There are, however, still issues to be resolved. The drone-based surveying algorithm has been released to be run in Google Earth Engine (a publicly accessible web-based platform for geospatial analysis). This limits the amount of data that can be uploaded to

10GB (around a football field) and prevents the use of more complex deep-learning algorithms, which would improve the percentage of potsherd detection. A degree of expertise is required to apply and train the algorithm too, and the use of current commercial drones means the method is restricted to flat areas and flight times of around 30 minutes. A more important drawback is that the algorithm cannot distinguish between particular ceramic types, which would provide essential information on chronology and type of site.

In order to overcome these issues, a series of improvements will be implemented this year. The use of a hybrid drone with a high-quality camera, laser sensors, and high-precision GPS will enhance the quality and resolution of acquired images while extending flight autonomy and control, enabling the survey of complex areas with variable topography. In turn, using cloud-computing providers to implement deep learning-based material detection and mapping will allow a faster and more accurate analysis of the drone-acquired images. As well as improving the overall usability and efficiency of the method, this will unlock new avenues for the identification of specific ceramic types and other kinds of material culture.

This method opens up new horizons for the automation of one of the most taxing and common archaeological tasks. Fast-paced developments in drone technology, cloud computing, and artificial intelligence will lead to an increase in efficiency and applicability during the next few years. ■

Hector A Orenge, Catalan Institute of Classical Archaeology, and Arnau Garcia-Molsosa, McDonald Institute for Archaeological Research

FURTHER READING

- S E Alcock and J F Cherry (2004) 'Introduction', in S E Alcock and J F Cherry (eds) *Side-by-Side Survey: comparative regional studies in the Mediterranean world*, Oxford: Oxbow Books, pp.1-9.
- E B Banning (2002) *Archaeological Survey*, New York: Kluwer Academic.
- H A Orenge and A Garcia-Molsosa (2019) 'A Brave New World for Archaeological Survey: automated machine learning-based potsherd detection using high-resolution drone imagery', *Journal of Archaeological Science* 112: 105013.

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Chris Catling on...

“WHEN DON QUIXOTE AND SANCHO PANZA TASTE THE HOLY BALM, IT TURNS OUT TO BE A VERY POWERFUL LAXATIVE.”

Chris Catling is an archaeologist and writer, fascinated by the off-beat and the eccentric in the heritage world.

TEXTS, TEXTILES, AND TRANSLATIONS

In CWA 98, we reported that Professor Marianne Ailes, from the University of Bristol’s Centre for Medieval Studies and Department of French, had identified a lost fragment of the 13th-century French epic, *Le Roman de la Rose* (*The Romance of the Rose*) in the archive of Worcester Record Office. Professor Ailes seems to have developed a reputation as the go-to person for identifying medieval French manuscripts, for, in November 2019, Bristol University announced another of her discoveries. This time, Dr Julian Luxford of St Andrews University came across some fragments in Dundee City Archive that Professor Ailes recognised as coming from the Old French epic *Fierabras*. A bestseller in its day, *Fierabras* tells the story of a giant of that name (meaning ‘Strongarm’) who attacks Rome and steals two barrels containing the ointment used to anoint the body of Christ after the Crucifixion.

Fierabras is subsequently defeated by King Charlemagne and becomes a Christian, joining Charlemagne’s army and donating the barrels of miraculous balm to the church of St Denis, in Paris – the church in which many French monarchs are buried. The oldest surviving version of the story dates from c.1170, and it was translated into many European languages. The name of *Fierabras* lives on in Shakespeare’s *Hamlet*, transmuted to Fortinbras. Cervantes, the satirist, made fun of it – Don Quixote claims to know the recipe for the miracle-working substance,

but when he and Sancho Panza taste it, it turns out to be a very powerful laxative. Professor Ailes said of the discovery: ‘No two copies of a text in manuscript are ever identical, so each new find adds another piece to a jigsaw, which helps us understand how a text was read and reinterpreted in the Middle Ages’.

Charlemagne’s cloaks

Charlemagne himself is the subject of a recently published biography by Janet Nelson (*King and Emperor: a new life of Charlemagne*), and one reviewer picked out the episode in which Charlemagne declared his aversion to short cloaks in somewhat blunt terms. The anecdote is preserved in the *Gesta Karoli* (*The Deeds of Charlemagne*), written by the monk Notker of St Gall (c.840-912) who says that Charlemagne could not ‘bear these little napkins’ and objected that ‘I can’t cover myself with them in bed; when I am on horseback I can’t protect myself from the wind and rain; and when I go to empty my bowels I catch a cold because my backside is frozen.’

Charlemagne preferred the older style of mantle, which reached to the ground at the front and rear, rather than the short cloaks dyed in bright crimson and sapphire blue that had become popular among the Franks of his court. He later returned to the same theme, when he complained that

BELOW Professor Marianne Ailes examines fragments of a manuscript found in Dundee City Archive by Dr Julian Luxford. They have been identified as part of the Old French epic *Fierabras*, about a giant of the same name.



PHOTO: courtesy of the University of Bristol

British and Frisian traders were selling short cloaks for the same price as the older longer ones, even though they were clearly made from far less material.

Charlemagne raised the subject in a letter that he wrote to Offa, King of Mercia, in 796, in which he promises that pilgrims from Britain, passing through France on their way to Rome, 'may go in peace, free from all molestation'. But, he adds, 'we have discovered that certain persons fraudulently mingle with them [the pilgrims] for the sake of commerce seeking gain, not serving religion', and he says that 'if such are found among them they are to pay the established toll at the proper places'.

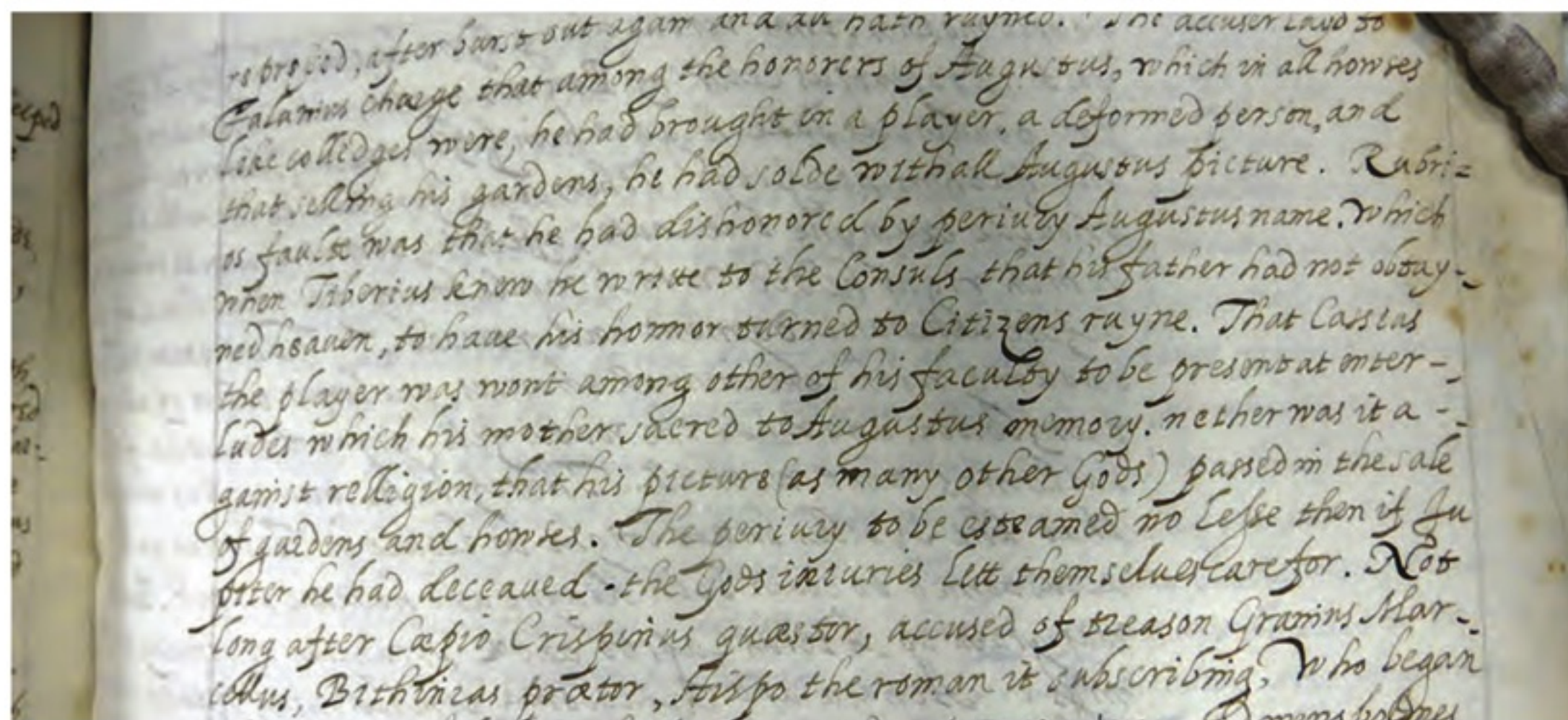
The king also promises 'protection and support in our kingdom, lawfully according to the ancient custom of trading' to any British merchants who suffer 'wrongful oppression', saying that 'they may appeal to us or to our judges; and we will then order true justice to be done – similarly our men, if they suffer any injustice in your dominion, are to appeal to the judgement of your equity, lest any disturbance should occur anywhere between our men'.

Charlemagne then refers to the 'black stones' that Offa has requested in an earlier letter. It is not clear what Offa has in mind (possibly millstones?), so Charlemagne writes 'let a messenger come and consider what kind you have in mind and we will willingly order them to be given, wherever they are to be found, and will help with their transport'. But he asks a favour in return: 'as you have intimated your wishes concerning the length of the stones, so our people make a demand about the size of the cloaks that you may order them to be such as used to come to us in former times'.

It scarcely needs saying that this fascinating exchange has a certain contemporary resonance, as politicians and civil servants once again enter into negotiations over the future trading relationship between the United Kingdom and the rest of Europe.

Elizabeth I's translation of Tacitus

Another lost literary treasure has just come to light – this time, in Lambeth Palace Library, the historic library and record office of the Archbishops of Canterbury. Dr John-Mark Philo, Honorary Fellow in English Studies at the University of East Anglia, was working there recently when he recognised the handwriting of Elizabeth I



on the manuscript of an English translation of the *Annales* of Tacitus, written on the kind of paper that the queen habitually used for her private correspondence.

The Latin text is in an elegant hand; it has been identified as the work of one of her professional scribes. The translation is the queen's own work, and the annotations and additions are in her own distinctive handwriting, which Dr Philo describes as 'idiosyncratic, to put it mildly'. He explained: 'the higher you are in the social hierarchy of Tudor England, the messier you can let your handwriting become. Her late handwriting is messy – there really is nothing like it – and the idiosyncratic flourishes serve as diagnostic tools'. 'For the queen,' he adds, 'comprehension is somebody else's problem.'

Dr Philo says that Tacitus has always been considered a subversive historian, who deplored the steady centralisation of governmental powers in a single individual. The queen may well have chosen to translate the work to seek advice on the potential pitfalls of her own reign. She might have seen parallels between her own situation and that of Agrippina, a woman of a great courage, who, in Elizabeth's translation, 'tooke upon hir some daies the office of a Captaine' to rouse the troops, just as the Queen did when she addressed the soldiers at Tilbury in 1588 to prepare them to resist the expected invasion of England by the Spanish Armada.

Discovering lost words

Words can disappear as well, or at least escape being recorded by dictionary compilers. The newly published Electronic Dictionary of the Irish Language (eDIL) contains more than 500 words found in manuscripts dating from between the time of St Patrick (who died c.493) and 1650 that had not been recorded until now. A team of researchers from the University

of Cambridge and Queen's University Belfast have been scouring manuscripts for five years to expand the dictionary's contents, revise definitions, produce evidence to show that certain words were in circulation at an earlier date than was previously thought, and delete a few items that proved not to be real words at all.

One word that eDIL records for the first time is *rímaire*, which means a person who performed calculations concerning times and dates, most importantly to fix the date of Easter. The word was in use in the 9th century and perhaps even earlier, then it disappears from the record until it emerges again in spoken Gaelic as *ríomhaire*, meaning 'computer'. Another word recorded for the first time in the electronic dictionary is *foclóracht*, 'vocabulary', based on *focul*, the word for 'word' and the root of the modern Irish *foclóir*, meaning 'dictionary'.

One cannot help but admire those linguists who devote their lives to studying ancient languages from the very threadbare evidence of inscriptions, anachronisms in ancient literature, and an understanding of the rules of how vowels and consonants transmute over time. Such studies often involve mastering several ancient and very difficult languages – Irish, Basque, Tartessian, Frisian, or Cornish, for example. The latest example of this highly complex research is the project based at the University of Leiden and funded by the European Research Council (ERC) looking at whether Europe's transition to agriculture at the Neolithic resulted in new vocabulary that spread across the continent and that lies embedded in several modern European languages. We hope to bring you the results – when the project reports in five years' time! ■

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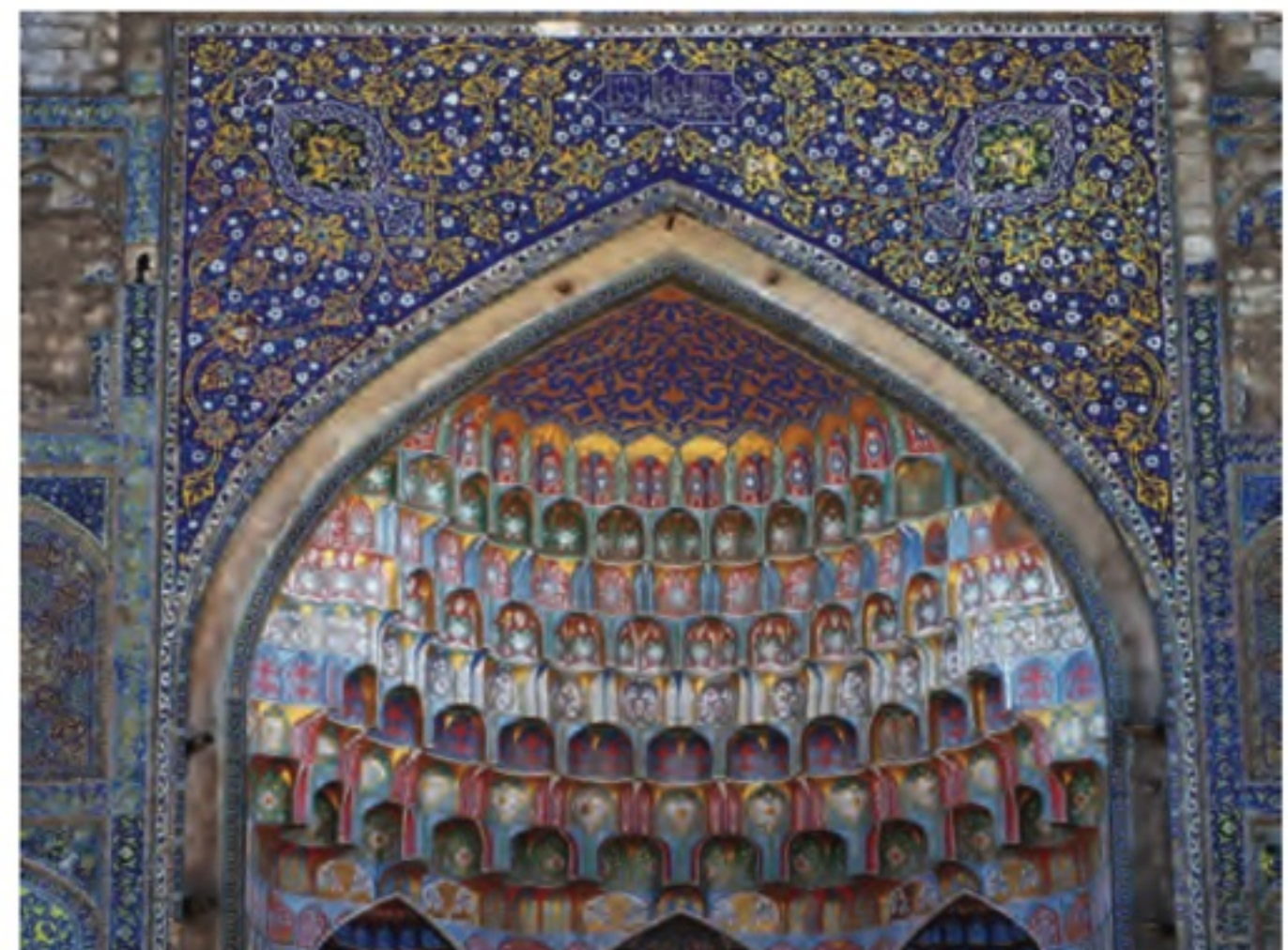
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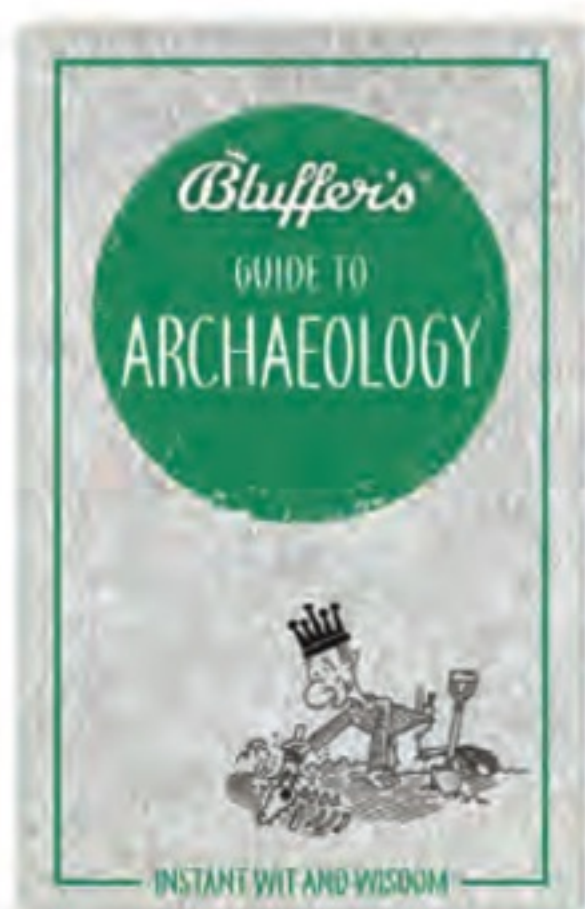
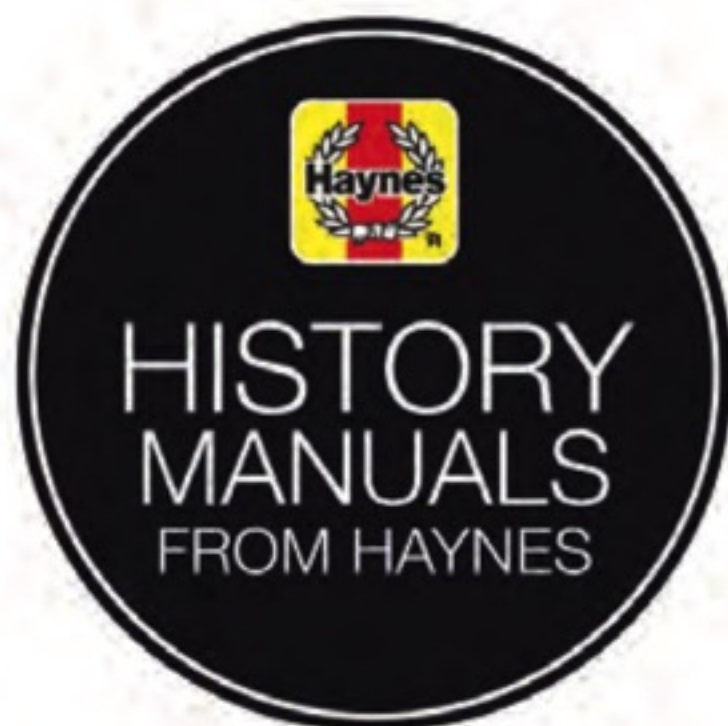
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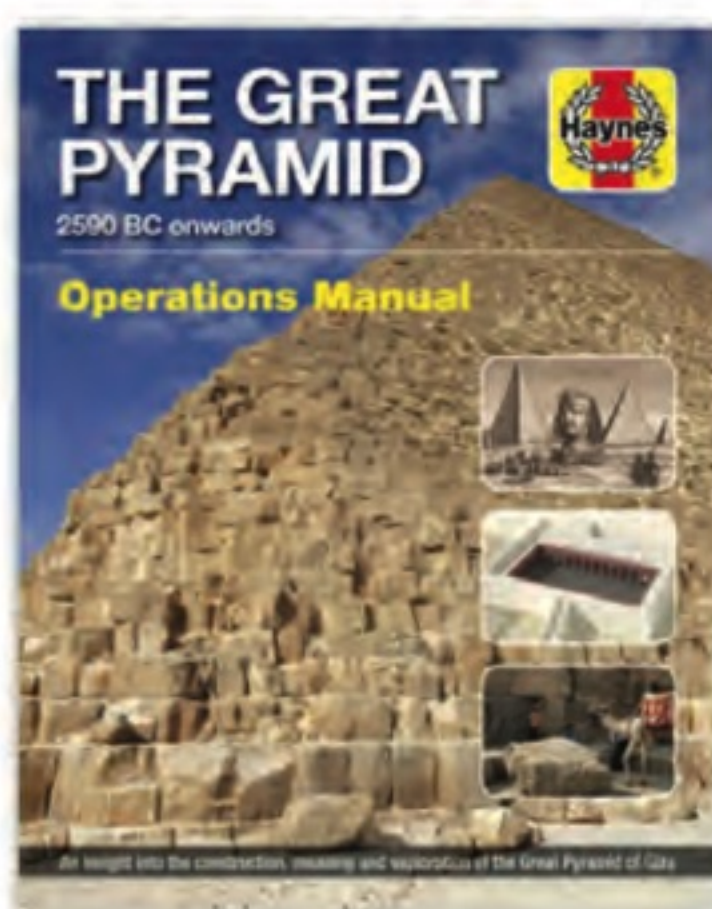
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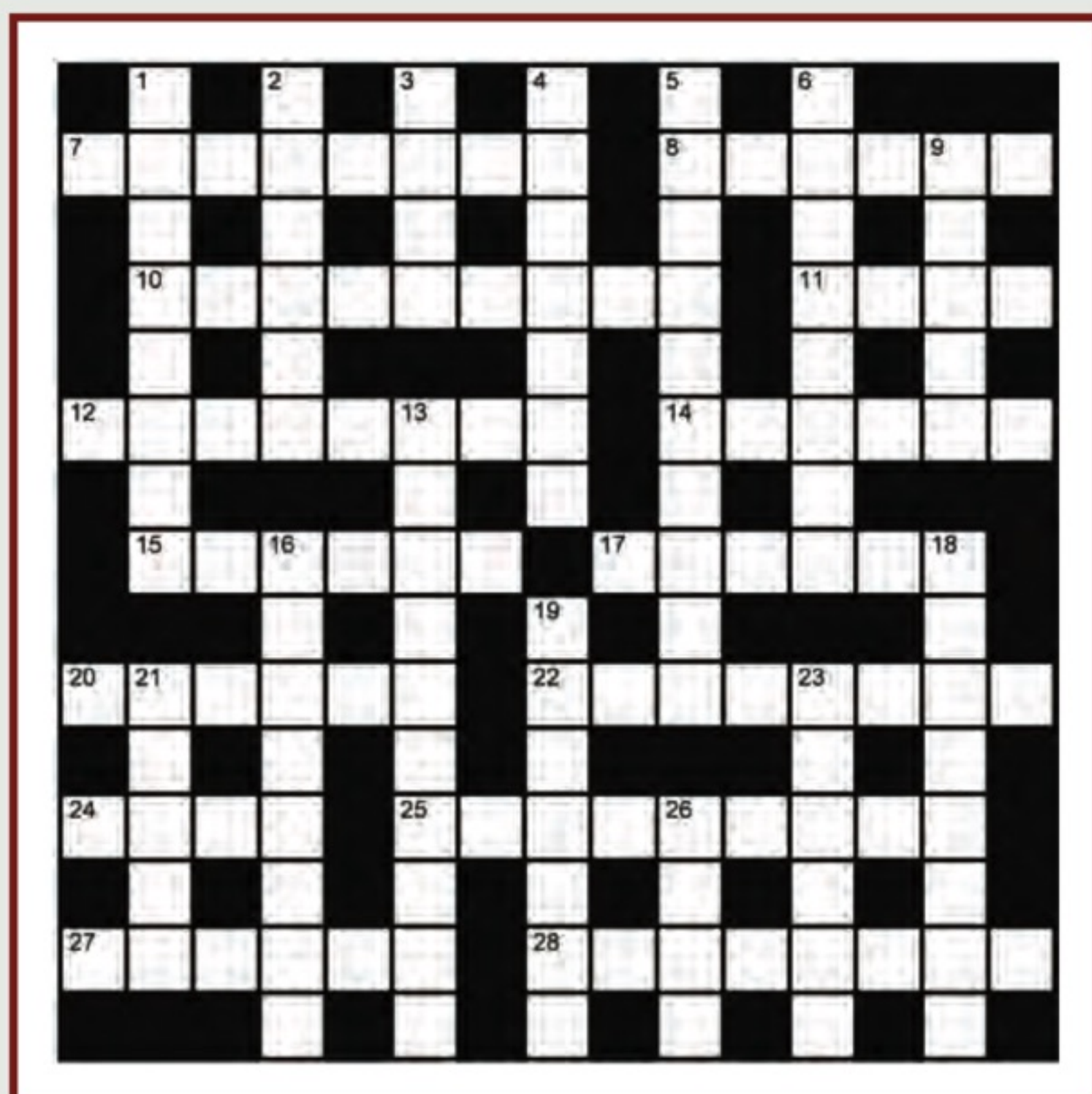


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FORUM

CROSSWORD, CARTOON, AND MORE



ERRATUM: In Carly Hilts' travel article 'Mexico: honouring ancestors ancient and modern' (CWA 98), the full final sentence in the 'Living with the dead' box (p.48) should have read: 'On the fringes of this ceremonial centre are scattered the homes of Monte Albán's inhabitants, who seem to have had a convivial attitude towards the dead: rather than exiling the deceased to separate cemeteries, their remains were buried beneath houses or in tombs dug under the central patios of larger dwellings.' Apologies for the mistake.

WRITE TO US Send your observations, your objections, and your opinions to: cwaletters@world-archaeology.com
Please note: letters may be edited; views expressed on the letters page are those of our readers, and do not necessarily reflect those of the magazine.

ACROSS

- 7 One of the hills of Rome (8)
- 8 Neolithic village and cemetery in Limburg, the Netherlands (6)
- 10 Group of Palaeolithic sites on the Yubetsu River in Japan (9)
- 11 Bull god worshipped in ancient Egypt (4)
- 12 Palaeolithic, Mesolithic or Neolithic (5,3)
- 14 John ___, 17th-century English antiquary (6)
- 15 Egyptian goddess of writing (6)
- 17 Type of pottery found in the Cuzco area of Peru (6)
- 20 Nickname for *Homo floresiensis* (6)
- 22 Asian city, location of the Ming Urik archaeological site (8)
- 24 Site in Meath of the seat of the Irish kings (4)
- 25 Historical word for a clerk (9)
- 27 Egyptian god of perfumes (6)
- 28 Lightly armed soldiers of Ancient Greece (8)

DOWN

- 1 People conquered by the Assyrians in 1157 BC (8)
- 2 Descriptive of Franks from whom the Merovingians were descended (6)
- 3 ___ Layard, English archaeologist and first female president of the Prehistoric Society (4)
- 4 Household gods of the Romans (7)
- 5 Roman general who campaigned against the Persians and Vandal Africa (10)
- 6 City in which the Hagia Sophia museum is located (8)
- 9 Fruit tree cultivated in the Mediterranean from the 3rd millennium BC (5)
- 13 Eastern Roman emperor who died c.AD 518 (10)
- 16 Phoenician and Roman port in modern-day Libya (8)
- 18 Northumbrian king ruling from AD 632 to 633 (8)
- 19 One of the Pleiades of Greek mythology (7)
- 21 Fort ___, National Historic Landmark in Missouri (5)
- 23 US state, location of the Paint Creek archaeological site (6)
- 26 One of Odin's brothers in Norse mythology (4)

ANSWERS

Answers to Crossword #98

For answers to #99, see next issue.

ACROSS: 7 Tula, 8 Rongorongo, 10 Badarian, 11 Trajan, 12 Lima, 13 Stela, 14 Claw, 15 Onnuris, 17 Ferrara, 20 Peru, 22 Erato, 24 Bedd, 25 Mexico, 27 Triremes, 28 Le Moustier, 29 Elam.

DOWN: 1 Kujavian, 2 Manacapur, 3 Druids, 4 Mortlake, 5 Cosa, 6 Aguada, 9 Nantes, 14 Carl Blegen, 16 Icehouse, 18 Ridgeway, 19 Cantii, 21 Exeter, 23 Ozieri, 26 Icon.

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Vlad, Dracula, and the tourist gaze



FAR LEFT Bran Castle: chosen because it looks right.

LEFT A postcard that sums it up: a portrait of Vlad the Impaler, a picture of Bran Castle, and the name of a fictional character – three phenomena that have no connection with each other.

How much difference does archaeology make to popular understanding of the past? When tourists visit the sites we investigate, how much do they learn?

‘Travel narrows the mind,’ wrote G K Chesterton, the famous writer, critic, and philosopher, a century ago. More recently, the academic sociologist John Urry has spoken of ‘the tourist gaze’, implying that, when we travel, we seek confirmation of our prejudices, and that local tourist industries aim to live up to them.

Go to Sicily, and the tourist shops are full of Italian cookbooks, Crusader puppets, and Godfather fridge magnets. Go to Jordan, and it’s Arab headscarves, camel toys, and – at Petra anyway – Indiana Jones whips.

The appetite for recycled stereotypes seems gargantuan, judging by the lines of shops selling identical tourist tat on the approaches to the major sites.

Rarely, though, have I come across anything quite as bizarre as the Dracula business in modern Romania. Let me begin with the facts, such as they are.

Bram Stoker, an Irishman who became a London theatre-manager and personal assistant to leading West End actor Henry Irving, published his famous novel in 1897. His vampire character may have been inspired by Vlad Dracul the Impaler, a mid 15th-century ruler of Wallachia, one of the three provinces of modern Romania. Vlad

was a psychotic monster who gorged his sadism watching mass impalements.

The events of the novel are set in the Carpathian Mountains of Transylvania – then and now an exceptionally remote part of Europe – though Stoker never visited the region and used contemporary travel literature for his descriptions.

Needless to say, there is no ‘Dracula’s Castle’. Or there didn’t used to be. But try googling now and see what happens. Up comes Bran Castle. And, sure enough, when you get there, it is heaving with thousands of tourists milling around an entire village of tourist-tat shops selling every kind of Dracula souvenir the entrepreneurial mind has been able to conceive.

Flimsy foundations

Bran, though, is an early 20th-century royal residence built on the ruins of a medieval castle. Even the original castle had only the most tangential connection with Vlad the Impaler. In any case, please remember, Vlad was not a fictional vampire, but a real-life despot, and one whose only possible connection with the literary creation half a millennium later was a minor accident of authorial whimsy.

Why Bran, then? Well, because, due to royal celebrity culture – which even extends to the pro-Nazi and now defunct Romanian royal family – Bran was already a tourist honeypot. And, just as important,

it looks right: a square of grey walls and towers sitting on a pinnacle of rock. So it gets turned into ‘Dracula’s Castle’ by the Romanian tourist industry.

It is not even in the right place. Stoker located his Dracula’s Castle in the Borgo Pass about 200 miles to the north. But, wait... lo and behold, here we find another ‘Dracula’s Castle’ – only this one was built in 1983, in the time of the deranged Stalinist dictator Nicolae Ceaușescu. (A reincarnation of Vlad the Impaler? Since we are being all Gothic, why not?)

You can stay here if you like: the place functions as a hotel. The décor is all faux medieval and, for a fee, you can visit Dracula’s coffin in the basement.

Or you might want to dine at the Golden Crown in nearby Bistrița, where Jonathan Harker stayed before his fateful visit to Dracula’s Castle – only when you get there, you’ll find yourself in a Communist-era concrete canteen.

I could go on. Romania has a rich medieval heritage, with a wealth of astonishing churches, monasteries, and religious art. As for Dracula – who has now clocked up more than 200 films, by the way – what a fascinating phenomenon from the perspective of psychoanalysis, anthropology, and cultural studies.

But all of this, I fear, lies far beneath ‘the tourist gaze’ at Bran Castle. Are we all wasting our time? ■

OBJECT LESSON

VENUS OF RENANCOURT

What is it?

This statuette, dating from around 21,000 BC, has the familiar form of a Palaeolithic 'Venus' figurine. Carved out of chalk and standing to a height of 4cm, the female figure has the prominent, fleshy thighs, buttocks, and breasts typical of these works from a late phase of the Gravettian culture (28,000-22,000 years ago). The face is undistinguishable and the arms barely there, but more clearly defined features include the figure's navel and her hair, or headwear, marked out by a grid-like arrangement of thin incised lines. A similar series of lines on the head is seen in another small figure from around 21,000 BC: the Venus of Brassempouy, also known as the 'Lady with the Hood', from Landes, France.

Where was it found, and when?

The Venus figurine was uncovered in 2019 during excavations in the Renancourt district of Amiens, France. This part of Amiens provides important, and rare, evidence for the presence of *Homo sapiens* in northern France at the start of the Upper Palaeolithic.

Excavations directed by archaeologist Clément Paris from Inrap (Institut national de recherches archéologiques préventives) in Renancourt since 2014 have unearthed well-preserved artefacts, sealed within silts from the end of the last glacial period. The artefacts have been radiocarbon dated to around 23,000 years ago and include personal ornaments like perforated chalk disks and flint projectile points for hunting and large blades for use as knives and scrapers. A large number of animal bones were also found, among them many from horses, suggesting that horse meat was often on the menu at this seasonal hunting camp.

CARVED OUT OF CHALK, THE VENUS STANDS TO A HEIGHT OF 4CM.



SEE FOR YOURSELF

Investigations are ongoing, but, when complete, the sculpture will be housed at the Musée de Picardie in Amiens.

For more information about the dig, visit www.inrap.fr/decouverte-d-une-venus-paleolithique-amiens-14779.

Why does it matter?

Gravettian Venus figurines, such as the famous Venus of Willendorf from Austria, have been found across a large area spanning from the Pyrenees to Siberia. Their function and meaning remains uncertain, but some theories link their corpulence and the emphasis placed on the breasts and pelvic area to fertility and sex.

Until recently, there were only 15 known examples from France, mainly found in Aquitaine and the Pyrenees in the south-west of the country, as is the case of the Venuses of Lespugue and of Brassempouy. The last one uncovered in a reliable stratigraphic

context was from Tursac, Dordogne, in 1959. Now, some 60 years later, the excavations at Renancourt have doubled their number. The first Venus figurine to be found in northern France, excavated in 19 fragments in 2014 and measuring 15cm high, turned out to be the first of 15 of these statuettes revealed at the site, culminating in the latest splendid discovery, featured here.

Not only have excavations at Renancourt uncovered the highest concentration of these figures in France, but they have also found several thousand chalk fragments, some seemingly waste from the production process, which has led the archaeologists to suspect that the site was a workshop where the statuettes were sculpted.

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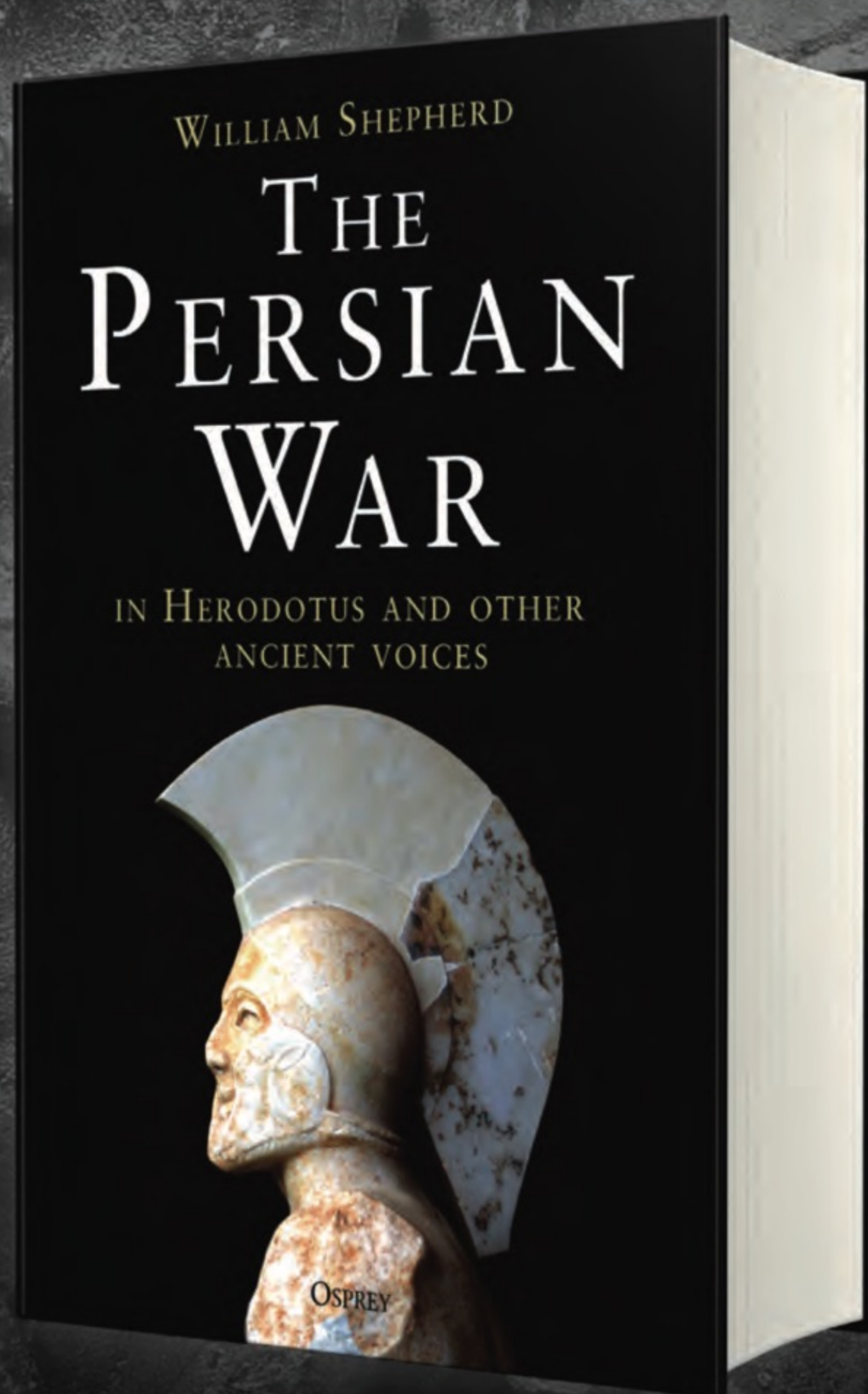


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